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EDITORIAL

REHABILITATING THE TUBERCULOUS

Adequate rehabilitation services are essential to a complete realization of the control of tuberculosis. The purposes of case finding, medical care and isolation are defeated if tuberculous persons with arrested disease are returned to economic and social life without benefit of rehabilitation. Tuberculosis is a chronic disease. One of its chief characteristics is that it relapses. The person whose disease has been arrested can soon lose his new found health if he is required to return to unhealthy and intolerable work, which, perhaps, contributed to his original break-down. It is not uncommon for the same person to return to the sanatorium three, four, and five times. Such experience is not only the cause of despair for the patient but the public health hazard and the economic cost are very great. Studies of these "repeaters" reveal that in great numbers these people will return to work and ways of life inimical to the maintenance of health and the continuing arrestment of disease processes.

The minimum essentials of a sound program of tuberculosis control are a nation-wide case-finding program of the entire adult population of the United States within a period of 5 years; medical care and isolation, which for effectiveness demands the construction of at least 50,000 beds for the tuberculous; rehabilitation and after-care of all persons who are found to be tuberculous, such work to begin at the moment of diagnosis and continuing often as long as 5 years after release from the sanatorium.

Regrettably, sincere but overzealous persons often tend to concentrate their efforts on just one aspect of tuberculosis control. There is still no widespread acceptance of the philosophy of rehabilitation.

This is the seventeenth of a series of special issues of PUBLIC HEALTH REPORTS devoted exclusively to tuberculosis control, which will appear the first week of each month. The series began with the Mar. 1, 1946, issue. The articles in these special issues are reprinted as extracts from the PUBLIC HEALTH REPORTS. Effective with the July 5, 1946, issue, these extracts may be purchased from the Superintendent of Documents. Government Printing Office, Washington 25, D. C., for 10 cents a single copy. Subscriptions are obtainable at \$1.00 per year; \$1.25 foreign.

Too often it is only an ancillary and relatively unimportant part in our assault on tuberculosis. So long as such an attitude persists we will fall short of our goal of eliminating tuberculosis from the population.

Fortunately, there are a few organizations such as the National Tuberculosis Association, The Office of Vocational Rehabilitation, and the State and local rehabilitation departments, which are stimulating action in this essential work. As a consequence of the leadership of such groups, a national movement is in progress to make rehabilitation effective and uniform throughout the country. Before such a plan, however, can succeed, community leaders everywhere must accept and support the principles and the practices of rehabilitation. It is the community that stands to gain the most in any such program. Effective rehabilitation reduces the length of time that the patient and his family are dependent upon the community. Rehabilitation realistically practiced can return useful citizens to the cities, towns, and farms of the nation.

At the present time, there is urgent need to acquaint the medical profession, not excepting some sanatorium physicians, with the nature of the role they are to play in rehabilitating the tuberculous. These men and women are properly the leaders and coordinators of any effective program. The clinician has opportunities not available to anyone else for observing the physical, intellectual, and personality patterns of the patient. Assisted by medical social workers, institutional and public health nurses, occupational therapists, and librarians, the clinician is enabled to realize a total portrait of the drives and dreams of the men and women who submit themselves to his care.

When the patient's disease process is arrested, the clinician's responsibility decreases. It is at this point that the responsibility of the vocational counselor and the medical social worker increases. These workers must then marshal all resources of the community to provide training, guidance, and placement in a job appropriate to the tuberculous person's intelligence, aptitude and physical capacity.

It is probable that one of the reasons for the current disinclination to accept the responsibilities of rehabilitation is the want of emphasis placed upon such endeavor in medical schools. It would not be difficult to establish course units in the whole field of rehabilitation in every medical school throughout the country. Moreover, continuation study in graduate schools could easily include practical courses in rehabilitation under the auspices of such associations as the American Trudeau Society, The American College of Chest Physicians, and State and local medical societies. Understanding breeds sympathy. The physician who knows what sound rehabilitation practice can mean to the patient will, with his new-found knowledge, enhance the

quality of his care and increase the speed of progress of his patient toward health and happiness.

The knowledge, understanding, and sympathy which the physician will realize, can at once be made more precise and encompassing if courses in rehabilitation are supplemented by (1) research in the psychology of the tuberculous; (2) study into the capacity of the tuberculous for types and quantity of work; and (3) analysis and evaluation of present knowledge of the psychic patterns of human beings in general. That such knowledge is faulty does not have to be emphasized. The psychiatrist can serve us well in this field, and eventually teach us much about nervous and mental patterns as they affect tuberculosis.

The leading article in this issue, "Operation of an Urban Sheltered Workshop for the Tuberculous," is an excellent example of the kind of appraisal of existing methods of rehabilitation which must be instituted and carried on throughout the country. Further follow-up studies must be undertaken on the rates of relapse, survival rates, and employment and income records. With such an approach and with enriched information, rehabilitation will become an intrinsic function—a principal weapon—in our attack upon tuberculosis.

Find the tuberculous; treat the tuberculous; rehabilitate the tuberculous: these compose the trinity of our approach. No one succeeds without the others. The three together mean unity and total attack.

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OPERATION OF AN URBAN SHELTERED WORKSHOP FOR THE TUBERCULOUS¹

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INTRODUCTION

The Altro Work Shop in New York City may be classified as an urban sheltered workshop. It provides a medically supervised work period for tuberculous patients who have been discharged from treatment but whose work tolerance is low and who need a graduated work schedule to attain their full occupational potentialities. A large number of the persons entering the Altro Work Shop come from Montefiore Hospital by way of the Montefiore Country Sanatorium at Bedford Hills, New York. Of the approximately 50 admissions yearly, about one-half of the ex-patients have a diagnosis of moderately advanced tuberculosis, 38 percent far advanced, and just over

¹ From the Field Studies Section, Tuberculosis Control Division.

14 percent are minimal cases. Very few admissions, only about 1 in 18, have positive sputum on admission to the workshop. As a matter of policy, less than 10 percent of the total roster consists of workers with positive sputum.

Siltzbach² has analyzed the clinical experience of patients admitted to the Altro Work Shop in a study covering the years 1915-39. He compares the period prior to 1930 with the later years. The present study is intended to provide data on the operation of the workshop over a 16-year period divided for convenience of analysis into two parts: (1) the 10 years from 1930-39, a period of depression and recovery, and (2) the 6 years 1940-45, a period of expanding employment and war. Since clinical results were influenced in recent years by application of collapse therapy, the present study is limited to the Altro experience since 1930. Like other institutions, the Altro Work Shop felt the effects of the expanding war economy accompanied by high wage levels. During this period, there was a tendency for workers to be attracted to outside industry, and many left the workshop prematurely.

Enrollees in the Altro Work Shop engage in the manufacture of washable garments for hospitals, health agencies, hotels, and other commercial establishments and make some tailored uniforms for nurses. The products are sold on the open market; workers are paid on a piece-work basis at prevailing union wage rates. Close medical supervision is maintained, and the work dosage assigned on entrance is reviewed monthly until a full work-tolerance of 8 hours daily is attained by the worker. He is then graduated and assisted in finding a suitable job or in vocational study. The workshop course is not considered vocational training although many of the workers (30.9 percent) come from the garment trades. Nearly 35 percent of ex-patients discharged from the workshop during 1930-45 to seek gainful employment obtained work in the garment industry; of these about one-third were new entrants to that type of work.

Workers are recruited through the Committee for the Care of the Jewish Tuberculous, the sponsoring agency. Sometimes a potential Altro worker becomes known to the Committee at the time his illness is discovered. If the patient is then admitted to Montefiore Country Sanatorium, the Committee, acting as the social service agency for the sanatorium, will have had an opportunity to become completely familiar with the patient's family needs. When a worker is accepted for the Altro Work Shop, both he and his family are treated as a unit for casework; his health, economic, and social needs and the needs of his family are carefully considered by professional social workers.

² Siltzbach, Louis E.: *Clinical Evaluation of the Rehabilitation of the Tuberculous*, National Tuberculous Association, New York, 1944.

Social workers maintain a continuous close relationship with patients. The sponsoring organization accepts an obligation to assist each family to achieve a nutritious diet, proper shelter, adequate clothing—in short, to enjoy a measure of economic security during the time the ex-patient is enrolled. Usually, arrangements are made so that the family lives close to the workshop. A family budget well above that usually afforded by public relief agencies is provided to meet the special needs of tuberculous persons. When the worker's earnings, along with other family income, is insufficient to balance the budget, the Committee subsidizes the family as needed. As earnings increase with higher work tolerance, there is less need for subsidies.

The sponsoring Committee receives referrals from a variety of sources. The single source from which most referrals are received is the Montefiore Country Sanatorium. During the years covered by this report, the number of enrollees who had positive sputum was very small and such ex-patients were accepted on a permanently sheltered basis only. As a general policy, those who can go directly to satisfactory employment, those past 55 years of age, and housewives are not referred. It is clear, then, that there is some preliminary selection of referrals to the sponsoring Committee. Patients entering the Altro Work Shop are carefully considered by a case-reviewing committee of the sponsoring agency and its medical staff and those accepted are kept on a probationary status for 3 months.

The purpose of the present report is to supplement the already published clinical evaluation with a description of the workshop population, the usual length of stay, the percentage achieving full work tolerance and an analysis of the cost of the program. It should be emphasized that the persons here considered are unable to work full time on entrance to the workshop and their physical condition, therefore, is in sharp contrast to that of people usually accepted by vocational training agencies. In effect, then, the financial support necessary for the venture may be considered as an expense additional to sanatorium care, whereby prospective workers acquire some definite skills and are enabled to assume a normal role in economic and social life. The workshop regimen is considered a concluding phase in the actual treatment of the disease.

The basic materials from which this report was prepared are the earnings cards and case histories maintained by the Committee. For each worker, the records provided: a social description including age, sex, nativity, marital status, and occupational status; his duration of stay in the workshop and work dosages; his earnings, public assistance and other family income, subsidies and emergency aid by the Committee. These data furnish the material for determining the cost of carrying the worker through to full work tolerance. The present

report gives consideration to 850 cases, 525 of which were admitted during the period 1930-39 and 325 during 1940-45. Of this total 48 were still in the workshop at the close of the study and were omitted from some of the tables in which averages per case are given.

A schedule card was designed on which case identification and workshop experience were typed. Schedules taken for the 1930-39 period were matched with selected items from the workers' clinical evaluation as reported by Siltzbach and similar items were attached to the 1940-45 schedules. All work was done with the cooperation, and in the offices of, the Committee for the Care of the Jewish Tuberculous in New York City during the latter months of 1945 and the early part of 1946. The clerical work was performed and supervised by United States Public Health Service personnel with the advice and assistance of Committee staff members. Statistical compilation and analysis of the data has been the responsibility of the United States Public Health Service.

I. ADMISSIONS TO THE ALTRO WORK SHOP, 1930-45

The workers selected for detailed study are exclusive of a small number of persons who were discharged from the workshop before completion of a 3-month probationary period. The present section of the study is devoted to a detailed description of the 850 cases studied, their sex, nativity, age, marital status, occupational status, and medical history. The number of admissions studied each year is shown in table 1.

TABLE 1.—*Altro Work Shop admissions by year, 1930-45*

Year	Admissions	Year	Admissions
1930.....	50	1939.....	54
1931.....	36	1940.....	60
1932.....	52	1941.....	65
1933.....	45	1942.....	57
1934.....	64	1943.....	37
1935.....	60	1944.....	38
1936.....	65	1945.....	38
1937.....	44		
1938.....	55	1930-45.....	850

Sex and nativity.—More than twice as many males as females were accepted for the Altro Work Shop program during the period studied. A majority of the entrants were foreign-born (table 2). However, since 1942 a slight majority admitted each year were native born.

Age.—The graduated work program served mainly young men and women, and men in the middle years of life. During the period of study more than half (50.8 percent) of the ex-patients were under 30 years of age on entrance to the workshop and 81.2 percent were under 40 years of age. Two-thirds (67.7 percent) of the women were under 30 years of age when first accepted for the Altro program (table 2).

TABLE 2.—*Altro Work Shop admissions, 1930-45 by sex, nativity, age groupings, marital status, and extent of disease on admission*

	Number			Percent		
	Both sexes	Male	Female	Both sexes	Male	Female
Total.....	850	596	254	100.0	100.0	100.0
Total native born.....	384	261	123	45.2	43.8	48.4
Total foreign born.....	466	335	131	54.8	56.2	51.6
Under 20.....	38	17	21	4.5	2.8	8.3
20-29.....	394	243	151	46.3	40.8	59.4
30-39.....	258	183	75	30.4	30.7	29.5
40-49.....	123	119	4	14.5	20.0	1.6
50 and over.....	37	34	3	4.3	5.7	1.2
Median age.....	29.8	32.1	27.0			
Single ¹	516	300	216	60.7	50.3	85.0
Married.....	332	295	37	39.1	49.5	14.6
Not stated.....	2	1	1	.2	.2	.4
Minimal.....	122	82	40	14.4	13.8	15.8
Moderately advanced.....	395	278	117	46.6	46.8	46.0
Far advanced.....	326	231	95	38.3	38.7	37.4
No involvement ²	7	5	2	.7		.8

¹ Includes divorced, separated and widowed.

² These cases are resorbed pleural effusion without parenchymal involvement.

The difference in the age distribution of men and women largely reflects the difference in their marital status.

Marital status.—About 40 percent of the workers were married; about one of every two men but only one of every seven women was married upon admission to the workshop (table 2). Apparently, married women return to their household duties after discharge from the sanatorium.

Extent of disease on admission to Altro.—Of the 850 patients admitted, 84.9 percent were recovering from disease in advanced stages. Moderately advanced cases comprised nearly half (46.6 percent) of all cases, forming the largest group, although far advanced cases constituted 38.3 percent. These proportions were, in the main, true of both men and women applicants accepted for the sheltered workshop program (table 2). The extent of tuberculosis among these workers reflects the extent of disease among patients discharged from tuberculosis institutions.

Workers with minimal and moderately advanced disease were predominantly in the younger age groups. Among workers having minimal disease, in particular, there were very few people in the older ages. All but 5 percent of the minimal cases were under 45 and about 57 percent were under 30. Nearly 13 percent of the far advanced cases and almost 10 percent of the moderately advanced were over 45 years of age.

Occupational status prior to Altro admission.—The work course is designed to develop work tolerance and is only incidentally concerned with teaching skills in specific trades. The choice of activities for

ex-tuberculous persons in sheltered workshops is influenced by the previously attained skills of patients who are to be the workers, and by the market for products to be manufactured; to a lesser degree the planning is in terms of the skills to be learned incidental to the attainment of full work tolerance. It is of interest, then, to examine the previous occupational experience of the ex-patients who were admitted to the workshop during the 16-year period studied. This information was obtained for 777 ex-patients with work experience prior to their illness.

A large portion of ex-patients (30.9 percent of the total) had previous occupational experience in the garment industry. This undoubtedly reflects the occupational pattern of New York City, where the garment industry is one of the leading activities. Clerks and sales people accounted for nearly one-third (32.7 percent) of the enrollees. For the period covered by the study, only small numbers of the workshop entrants had been professional, skilled, or unskilled workers.

Skills and work experience gained prior to workshop admission did not differ very much for the sexes. Both men and women had been largely employed as peddlers, clerks, or salespeople or had engaged in various operations in the garment industry. About three-fifths of the men with work experience had these types of employment, of which about one-half (28 percent) had been garment workers. Nearly two of every five women ex-patients with work experience (38.4 percent) had been employed in the garment industry (table 3).

TABLE 3.—*Altro Work Shop admissions, 1930-45, by previous occupational status and sex*

Occupational status prior to Altro admission	Number			Percent		
	Both sexes	Male	Female	Both sexes	Male	Female
Total.....	777	558	219	100.0	100.0	100.0
Professional workers.....	41	36	5	5.3	6.5	2.3
Clerical and sales.....	254	163	91	32.7	29.2	41.6
Skilled workers.....	56	55	1	7.2	9.9	0.4
Semi-skilled workers.....	413	292	121	53.2	52.3	55.3
Garment workers.....	240	166	84	30.9	28.0	38.4
Other semi-skilled and service workers.....	173	136	37	22.3	24.3	16.9
Unskilled workers.....	13	12	1	1.6	2.1	0.4

Condition on admission.—Of the 850 entrants, the great majority (84.0 percent) had arrested or apparently arrested tuberculosis. The seeming risk of accepting, for the most part, cases in advanced stages of tuberculosis was greatly reduced in view of the fact that two-thirds (68.3 percent) of the moderately advanced and one-half (50.9 percent) of the far advanced cases were arrested. The quiescent and unstable

cases accounted for 3.2 percent of the minimal, about 10 percent of the moderately advanced and almost 30 percent of the far advanced cases studied (table 4).

TABLE 4.—*Altro Work Shop admissions, 1930-45, by extent of disease on admission and clinical status*

Clinical status	Number by admission diagnosis					Percent				
	Total	Minimal	Moderately advanced	Far advanced	No involvement ¹	Total	Minimal	Moderately advanced	Far advanced	No involvement
Total	850	122	395	326	7	100.0	100.0	100.0	100.0	100.0
Arrested	541	100	270	166	5	63.6	82.0	68.3	50.9	71.4
Apparently arrested	173	18	86	68	1	20.4	14.8	21.8	20.9	14.3
Quiescent	113	4	33	76	-----	13.3	3.2	8.4	23.3	-----
Unstable	22	-----	6	16	-----	2.6	-----	1.5	4.9	-----
Nontuberculous	1	-----	-----	-----	1	0.1	-----	-----	-----	14.3

¹ These cases had histories of resorbed pleural effusion without parenchymal involvement.

Sputum history.—An important factor in Altro's selection of workers who can safely undertake a graduated work schedule is the status of their sputum. The sputum history of those admitted to Altro is considered in three categories: (1) those who have never had a record of positive sputum (the minus-minus group); (2) those with sputum, once positive, which had become negative previous to admission to the workshop (the plus-minus group); and (3) those whose sputum continued positive at workshop admission (the plus-plus group). Using these designations, a tabulation of sputum history in relation to stage of illness is presented (table 5).

Previous sputum history was obtained for nearly all the ex-patients, and of these 93.5 percent either had become negative before admission or never had positive sputum recorded, regardless of stage of illness. Of these, 71.2 percent had sputum which became negative while under treatment prior to admission to Altro, and 22 percent had no previous record of positive sputum. Minimal cases comprised less than 15 percent of the total admissions. More than half of the minimal cases never had positive sputum recorded previous to admission. Advanced cases, particularly those with far advanced lesions, were much less likely to present a negative sputum history on admission to the workshop.

Summary.—The 850 admissions to the Altro Work Shop during a 16-year period have been described according to selected social and economic factors. As the result of a selective process, the Altro-admitted cases are youthful, usually under 30 years of age. Most of these cases are males and a majority are foreign born; male admissions are usually married, female admissions usually unmarried. These persons, generally, have had previous work experience in the garment

TABLE 5.—*Altro Work Shop admissions, 1930-45, by sputum history and extent of disease on admission*

Diagnosis on admission	Persons with specified sputum history before admission									
	Number					Percent				
	Total	Minus-minus	Plus-minus	Plus-plus	Sputum history not reported	Total	Minus-minus	Plus-minus	Plus-plus	Sputum history not reported
Total.....	850	190	605	48	7	100.0	22.3	71.2	5.7	0.8
Minimal.....	122	67	48	2	5	100.0	54.9	39.3	1.6	4.1
Moderately advanced.....	395	101	279	15	-----	100.0	25.6	70.6	3.8	-----
Far advanced.....	326	15	278	31	2	100.0	4.6	85.3	9.5	.6
No involvement ¹	7	7	-----	-----	-----	100.0	-----	-----	-----	-----

¹ These cases had histories of resorbed pleural effusion without parenchymal involvement.

industry or in closely related jobs. The patients for the most part had been discharged from sanatoria as cases of advanced tuberculosis, practically all of them in arrested or apparently arrested condition and their sputum, previously positive, had become negative before admission to the workshop.

II. WORK PROGRESS OF 1930-45 ADMISSIONS

The present section of this report deals with Altro's experience in helping tuberculous ex-patients achieve full work tolerance. The primary objective of the venture is to make possible full employment of ex-patients at desirable jobs. This is accomplished when an 8-hour daily work tolerance is reached. Of 802 admissions who had been discharged from the workshop by the close of the study on January 1, 1946, 454 (56.6 percent) had reached this goal before discharge. An additional 168 cases (about 21 percent) were discharged after reaching a 7-hour daily work dosage. Most of those who were discharged after having worked 7-hour daily work dosages were ready for a full work schedule of 8 hours daily, and in most cases, they were referred to employers on a full-time work basis. It may be said that for approximately three of every four admissions (77.5 percent), the workshop regimen, for all practical purposes, had achieved its objective.

The proportion of workers who reached approximately full work tolerance varied little for the various stages of illness represented on admission. Minimal cases showed only a slightly better record than advanced cases, a finding particularly important when it is remembered that 84.9 percent of the enrollees were advanced cases. Slightly less than a fourth (22.5 percent) of the workers left the workshop before reaching a 7-hour work tolerance. A smaller proportion of former patients with minimal lesions, 18.4 percent, left before the 7-hour goal was reached. About 23 percent of the moderately advanced

ex-patients did not remain until the 7-hour dosage was attained. Of the far advanced cases, 22.9 dropped out before either the 7- or 8-hour work schedule was assigned them (table 6).

TABLE 6.—*Altro Work Shop discharges, 1930-45, by extent of disease on admission and daily work tolerance at discharge*

Daily work tolerance at discharge	Number					Percent				
	Total	Minimal	Moderately advanced	Far advanced	No involvement	Total	Minimal	Moderately advanced	Far advanced	No involvement
Total.....	802	114	378	305	5	100.0	100.0	100.0	100.0	100.0
8 hours.....	454	66	215	171	2	56.6	57.9	56.9	56.1	40.0
7 hours.....	168	27	75	64	2	20.9	23.7	19.8	21.0	40.0
6 hours.....	88	13	44	30	1	11.0	11.4	11.6	9.8	20.0
5 hours.....	55	4	26	25	-----	6.9	3.5	6.9	8.2	-----
4 hours.....	28	4	12	12	-----	3.5	3.5	3.2	3.9	-----
3 hours.....	9	-----	6	3	-----	1.1	-----	1.6	1.0	-----

A second method of determining the number of cases eligible for graduation is that used by Siltzbach. In his paper on clinical evaluation of the Altro Work Shop experience he defines "apparently fully rehabilitated cases" as those "workers who have attained a full-time work schedule of seven or more hours and have been able to remain at that level for 2 or 3 months."³ A count of the cases meeting this criterion has been made using the more liberal measure of 2 months (8 weeks) of work at 7 hours or more daily to qualify for graduation.

The considerable difference in the national economy for the decades following 1930 and 1940 was reflected in the patients' length of stay. Because of this factor, determination of the patients' attainment of full work tolerance was studied separately for the two periods, 1930-39 and 1940-45. The differences are striking, for of 525 cases admitted in the earlier period, 413 (78.7 percent) achieved at least a 7-hour daily work tolerance and maintained that level continuously for 8 weeks or more. During the war years, however, when every means was used to attract all available manpower into the war effort, only 151 of 277 entrants (54.5 percent) reached and maintained a 7-hour daily work tolerance (table 7). These figures must be taken as maximum measures of graduation status. No account was taken of ex-patients who subsequently returned to sanatoria or of those who returned to the workshop for another "hardening" period later.

Length of stay.—A sheltered workshop does not permit the establishment of a graded course which workers follow and from which they are graduated after a specific time period. Each person represents an individual problem in recovery of work tolerance and it therefore would be expected that the amount of time spent in the workshop, as

³ Siltzbach, Louis E.: *op. cit.*, p. 8.

TABLE 7.—*Altro Work Shop discharges, 1930-39, 1940-45, by daily work tolerance at discharge*

Daily work tolerance at discharge	Number			Percent		
	Total	1930-39	1940-45	Total	1939-30	1940-45
Total.....	802	525	277	100.0	100.0	100.0
7 hours or more for at least 8 weeks.....	564	413	151	70.3	78.7	54.5
All other.....	238	112	126	29.7	21.3	45.5

well as the time spent at the different work dosages, would vary for different workers. In addition to the physical condition of ex-patients enrolled, there are other important determinants which affect the length of the course. Each worker presents not only an individual case of illness from which he has made some degree of recovery but is also a member of society who is responsive to the social needs of his family and to opportunities commensurate with his ambitions.

The 802 workers discharged ⁴ accumulated a total of 58,653 weeks of work, which represented 1,627,866 hours of work,⁵ before their discharge from the workshop (table 8). Thus the over-all average length of the course was about 17 months. With a normal workweek quota of 40 hours, the workshop enrollees averaged 28 hours a week of assigned work. During the 1930's, enrollees remained at the workshop at least 2 months longer, and were assigned work dosages that, on the average, accounted for a slightly greater weekly quota of hours at work than was reported for the entire period studied. The average length of stay was 19 months. During the years immediately preceding and during World War II, the average stay at the workshop dropped to about 13 months, a decrease of more than 20 percent from the 16-year average and a decline of 30 percent from that of the preceding 10 years (table 9).

For a further examination of length of stay, the data are shown by extent of illness on admission for each of the two periods. The very considerable shortening of the workshop stay for the 1940-45 admissions as compared with workers admitted during the 1930-39 decade suggests a continuation of the trend (observed by Siltzbach) to shorten the length of stay recommended for workers who have far advanced disease. The decline, however, is so marked for every stage of illness there seems little doubt that extremely favorable employment opportunities and a public policy of recruiting all possible workers into the wartime economy exerted an effect on length of stay in the workshop.

⁴ Does not include 48 cases still in the workshop at the close of the study.

⁵ "Hours of work" represent accumulated hours in terms of daily work dosage recommended by the examining physician and may be somewhat greater than the actual hours worked. For example, though assigned to 5 hours daily work dosage for a 5-day week, the patient may not have worked the full quota of 25 hours that particular week.

TABLE 8.—*Altro Work Shop discharges, 1930-45, showing earnings and subsidies, by extent of disease on admission*

Diagnosis and time periods	Cases represented	Average per week		Average subsidy per case	Total weeks of work	Total hours	Total earnings	Total subsidies
		Earnings	Subsidies					
Total 1930-45.....	802	\$7.07	\$5.73	\$419	58,653	1,627,866	\$414,410	\$336,300
Minimal.....	114	7.35	6.29	349	6,319	185,484	46,464	39,738
Moderately advanced.....	378	6.91	5.73	405	26,721	746,455	184,554	153,133
Far advanced.....	305	7.17	5.62	470	25,473	691,946	182,532	143,279
No involvement.....	5	6.14	1.07	30	140	3,980	860	150
Total 1930-39.....	525	7.18	5.77	472	42,960	1,224,615	308,279	247,738
Minimal.....	65	7.70	6.08	417	4,456	136,225	34,297	27,081
Moderately advanced.....	254	7.00	5.91	453	19,496	558,175	136,496	115,151
Far advanced.....	205	7.24	5.56	515	18,965	528,880	137,311	105,506
No involvement.....	1	4.07	-----	-----	43	1,335	175	-----
Total 1940-45.....	277	6.76	5.64	320	15,693	403,251	106,131	88,562
Minimal.....	49	6.53	6.79	258	1,863	49,260	12,167	12,657
Moderately advanced.....	124	6.65	5.26	306	7,225	188,280	48,058	37,982
Far advanced.....	100	6.95	5.80	378	6,508	163,066	45,221	37,773
No involvement.....	4	7.06	1.55	38	97	2,645	685	150

TABLE 9.—*Altro Work Shop discharges,¹ 1930-45, showing duration of work course before discharge and average hours per week, by extent of disease on admission*

Diagnosis and time periods	Cases represented	Average weeks per worker	Average hours per week
Total 1930-45.....	802	73.1	27.8
Minimal.....	114	55.4	29.4
Moderately advanced.....	378	70.7	27.9
Far advanced.....	305	83.5	27.2
No involvement.....	5	28.0	28.4
Total 1930-39.....	525	81.8	28.5
Minimal.....	65	68.6	30.6
Moderately advanced.....	254	76.8	28.6
Far advanced.....	205	92.5	27.9
No involvement.....	1	43.0	31.0
Total 1940-45.....	277	56.7	25.7
Minimal.....	49	38.0	26.4
Moderately advanced.....	124	58.3	26.1
Far advanced.....	100	65.1	25.1
No involvement.....	4	24.3	27.3

¹ For data on which this table is based, see table 8.

When the average number of weeks of stay per worker was converted into months the data showed that, during the 1930-39 period, minimal cases remained in the workshop about 16 months, moderately advanced cases nearly 18 months, and far advanced cases more than 21 months. For the 1940-45 period, the durations of stay were 9 months, 13 months, and 15 months, respectively, for the three diagnostic groups. Thus, cases far advanced upon admission during 1940-45 averaged a shorter time at the work regimen than did minimal cases during the earlier period. The fact that admissions of the 1940-45 period, on the average, worked fewer hours per week

than did those admitted during the 1930's also reflects the greater tendency in recent years for workers to be discharged or leave the workshop before the higher work dosages were reached (table 9). During the later period, some workers, before they had achieved full work tolerance, were discharged with medical sanction to undertake part-time work in industry or part-time training courses.

It is also true that there has been a deliberate effort on the part of the workshop physicians to move the patients from the lower work dosages to the higher work dosages at a faster rate. Another factor which possibly may have influenced the shorter time of the course in 1940-45 is the somewhat longer stays in the hospital, together with increased in-sanatorium rehabilitation efforts. Also, the experience of the workshop in recent years with thoracoplasty patients has shown that, in general, full work tolerance can be achieved for them after a shorter stay than was previously thought necessary.⁶

III. THE EARNING RECORDS OF ALTRO WORKERS

The purpose of the present section is to discuss the earnings of specified groups of workers, and the subsidies from the sponsoring agency which enabled workers to take sheltered employment before entering regular jobs. These expenditures do not include all the costs of operating the workshop for such important items as capital investment, maintenance, supervisory costs; and cost of medical care and social work is not included. The data obtained, however, are useful as a guide to those who plan similar ventures.

"Earnings" represent wages received for work performed on a piece-work basis and are based on union pay scales for work of a given type and skill. Earnings vary with the daily work dosages prescribed by the physician in charge. "Subsidies" are likewise variable amounts and are adjusted to meet the needs of the workers and their families. Subsidies are granted to supplement the family income and represent the difference between the amount of the budget planned for each family by the medical social workers and the income received by each family from all sources, such as private and public assistance and earnings of other members of the worker's family. Earnings and subsidies are paid to workers weekly. (In this report the amounts have been rounded to the nearest dollar.) It was found necessary to subsidize most of the patients; 93 percent received this aid during some period of their stay. In the 1940-45 period subsidies were granted at some time to 88 percent of the admissions.

Total earnings and subsidies.—Over a period of 16 years the Altro Work Shop has provided approximately a half-million dollars as earn-

⁶ Personal communication from Dr. Siltzbach, September 30, 1946.

ings to the 850 ex-patients admitted. In addition, these workers have received \$360,000 in subsidies. On the average, weekly earnings amounted to about \$7.00 and the average subsidy was \$6.00 per worker. Average earnings during the 1940-45 period were somewhat lower than for previous years because of the shorter stays of workers and also because some workers had not reached the higher work dosages before they left. Because of the smaller earnings and of the higher living costs of the war years, the average subsidies per week for this period were somewhat higher. Exclusion of the 48 cases still at Altro made little difference in these averages (table 8).

For the 525 workers in the Altro Work Shop from 1930 to 1939, the total subsidy per case ranged from no subsidy for 23 cases to \$2,974 for one case who spent 174 weeks at the workshop. The median amount was \$404 while the average was \$472. For the 1940-45 cases, the median was \$235 and the average was \$350. There were 39 workers in this group who received no subsidy, and the amount ranged up to \$5,120 for one case who had also been at the workshop 174 weeks and was still there at the close of the study. If this case is excluded, subsidies for the 1940-45 cases range up to \$2,173. For each time period, the *total* amount of subsidy increased with the severity of the disease as determined by admission diagnosis, the far advanced cases averaging about \$100 per case more than the minimals (table 10).

Average subsidy and earnings.—The *average* weekly subsidy per worker was lower for far advanced than for minimal cases; the somewhat longer stays of the far advanced cases had the effect of increasing the amounts required in subsidies, but their longer time at the higher work dosages reduced the average subsidy per week. Tables showing, by diagnosis and work dosage, the average subsidy per worker and the average weekly subsidy at each work dosage are included for the two periods studied (tables 10 and 11).

Average weekly earnings increased as ex-patients moved up the scale toward full work tolerance. The medians of these averages were as follows:

<i>Work dosage</i>	<i>1930-39 cases</i>	<i>1940-45 cases</i>
3 hours.....	\$2. 00-2. 99	\$2. 00-2. 99
4 hours.....	3. 00-3. 99	3. 00-3. 99
5 hours.....	4. 00-4. 99	5. 00-5. 99
6 hours.....	6. 00-6. 99	7. 00-7. 99
7 hours.....	8. 00-8. 99	9. 00-9. 99
8 hours.....	10. 00-10. 99	11. 00-11. 99
Median of average earnings, all weeks.....	5. 00-5. 99	5. 00-5. 99

At the lower work dosages, there were heavy concentrations of cases. For example, of the 465 people in the 1930-39 period who worked at a 4-hour work dosage, 265, or 57 percent, had earnings between \$2.00

TABLE 10.—Average subsidy per worker by extent of disease on admission and by daily work dosage, in hours, 1930-45 ¹

Diagnosis and time periods	Average subsidy at each daily work dosage							
	All daily work dosages	0 ²	3	4	5	6	7	8
All diagnoses:								
1930-45.....	\$425	\$52	\$91	\$110	\$97	\$97	\$72	\$88
1930-39.....	472	52	88	116	105	111	78	104
1940-45.....	350	52	94	100	84	72	61	49
Minimal:								
1930-45.....	363	48	88	94	89	85	51	125
1930-39.....	417	42	65	88	95	94	59	156
1940-45.....	301	57	90	99	84	73	40	55
Moderately advanced:								
1930-45.....	404	45	81	112	98	91	65	91
1930-39.....	453	47	79	117	107	106	71	107
1940-45.....	314	40	81	94	84	62	52	49
Far advanced:								
1930-45.....	483	61	101	119	99	110	88	72
1930-39.....	515	61	96	124	107	122	91	82
1940-45.....	429	62	106	110	87	87	82	47
No involvement:								
1930-45.....	³ 66	11	16	12	² 8	² 16	² 17	² 31
1930-39.....								
1940-45.....	78	11	16	12	10	19	22	47

¹ Including 48 cases still at Altro, January 1, 1946.² The one "no involvement" case worked at the 5-8 hour dosages in the 1930-39 period and so affects the average subsidy per case, even though he received no subsidy.³ Includes time spent by patients under observation and while excused for illness, vacations, hospitalization, etc.TABLE 11.—Average weekly subsidy per worker by extent of disease on admission and by daily work dosage, 1930-45 ¹

Diagnosis and time periods	Average subsidy at each work dosage							
	All daily work dosages	0 ²	3	4	5	6	7	8
All diagnoses:								
1930-45.....	\$5.89	\$12.97	\$7.21	\$6.93	\$6.22	\$5.85	\$4.52	\$3.78
1930-39.....	5.77	12.22	7.49	6.83	6.35	5.95	4.36	3.81
1940-45.....	6.18	14.94	6.95	7.11	6.00	5.57	4.94	3.60
Minimal:								
1930-45.....	6.63	13.55	8.10	8.20	7.24	6.71	4.51	5.22
1930-39.....	6.08	11.84	8.58	6.77	6.80	6.69	4.51	5.13
1940-45.....	7.73	17.04	7.98	10.43	7.75	6.74	4.51	5.88
Moderately advanced:								
1930-45.....	5.77	12.51	6.92	6.85	6.19	5.69	4.40	3.82
1930-39.....	5.91	12.34	7.41	7.27	6.54	5.91	4.43	4.00
1940-45.....	5.45	12.98	6.44	6.07	5.56	5.04	4.31	3.03
Far advanced:								
1930-45.....	5.87	13.25	7.40	6.76	6.07	5.85	4.65	3.13
1930-39.....	5.56	12.18	7.51	6.41	6.07	5.85	4.29	3.02
1940-45.....	6.60	16.13	7.29	7.52	6.07	5.82	5.71	3.66
No involvement:								
1930-45.....	³ 1.78	11.00	1.88	2.07	² 79	² 1.59	² 1.64	² 5.22
1930-39.....								
1940-45.....	2.13	11.00	1.88	2.07	1.00	1.98	2.02	7.83

¹ Includes 48 cases at Altro, January 1, 1946.² The one "no involvement" case worked at the 5-8 hour dosages in the 1930-39 period and so affects the average subsidy per case, even though he received no subsidy.³ Includes time spent by patients under observation and while excused for illness, vacations, hospitalization, etc.

and \$4.00 a week. At the higher dosages the earnings were more widely distributed, ranging from \$1.00 a week to over \$25.00 (tables 12 and 13).

TABLE 12.—*Distribution of average weekly earnings of Altro Work Shop admissions, 1930-39, by daily work dosage*

Average weekly earnings	Number of workers	Daily work dosage in hours					
		3	4	5	6	7	8
Less than \$1.00.....		5	2				
\$1.00-\$1.99.....	10	45	37	4			1
\$2.00-\$2.99.....	31	58	139	43	12	1	2
\$3.00-\$3.99.....	72	23	126	99	31	9	3
\$4.00-\$4.99.....	78	16	67	88	87	27	15
\$5.00-\$5.99.....	78	8	44	68	84	49	31
\$6.00-\$6.99.....	61	5	24	43	62	53	22
\$7.00-\$7.99.....	48	1	9	31	46	40	27
\$8.00-\$8.99.....	32	1	5	18	39	33	30
\$9.00-\$9.99.....	41		7	15	32	35	20
\$10.00-\$10.99.....	21		2	6	19	31	28
\$11.00-\$11.99.....	15			7	18	30	33
\$12.00-\$12.99.....	9	1	2	3	5	18	22
\$13.00-\$13.99.....	8				8	19	22
\$14.00-\$14.99.....	8		1		5	7	14
\$15.00-\$15.99.....	3			1	4	4	14
\$16.00-\$16.99.....	1					5	12
\$17.00-\$17.99.....	4			2	2	4	6
\$18.00-\$18.99.....	1				2	2	10
\$19.00-\$19.99.....	2					7	3
\$20.00-\$24.99.....	2				3	10	12
\$25.00 and over.....							6
Total.....	525	163	465	428	463	384	333
Did not work at this dosage.....		362	60	97	62	141	192
Total cases.....	525	525	525	525	525	525	525

The record of earnings and subsidies for discharged workers.—By eliminating those workers remaining in the workshop at the close of the study period, consideration can be given to that group of admissions who were subjected to the workshop regimen and who had completed varying degrees of the course. These discharged cases have been further sub-divided according to the extent of illness on their admission and are presented for the two time periods. The relative expenditures required to prepare ex-patients for the work-world they expect to enter are shown to differ little between the two time periods. On the other hand, because of the earlier discharges, earnings within diagnostic groups were consistently lower during the more recent years. This again reflected the conditions in the war-time labor market. Increased proportions of workers stayed a relatively short time and did not attain full work tolerance before leaving. Ex-patients with minimal diagnosis would be expected to have higher average weekly earnings than ex-patients with more advanced illness, by virtue of their ability to tolerate higher work dosages on entrance. This holds true for the decade following 1930, but in more recent years the earnings of minimal cases were, on the average, less than those of advanced cases. The explanation may

TABLE 13.—*Distribution of average weekly earnings of Altro Work Shop admissions, 1940-45, by daily work dosage*

Average weekly earnings	Number of workers	Daily work dosage in hours					
		3	4	5	6	7	8
Less than \$1.00.....		1	1				
\$1.00-\$1.99.....	7	34	10	1	1		1
\$2.00-\$2.99.....	35	71	64	21	7		
\$3.00-\$3.99.....	43	31	108	54	17	5	5
\$4.00-\$4.99.....	66	6	45	62	23	10	6
\$5.00-\$5.99.....	35	4	27	50	47	13	6
\$6.00-\$6.99.....	38	1	15	32	27	19	9
\$7.00-\$7.99.....	27	1	6	27	39	21	9
\$8.00-\$8.99.....	16	3	3	13	25	21	11
\$9.00-\$9.99.....	12		3	9	16	20	9
\$10.00-\$10.99.....	15		4	7	16	15	6
\$11.00-\$11.99.....	12		1	5	10	9	8
\$12.00-\$12.99.....	6		2	6	6	12	7
\$13.00-\$13.99.....	2				5	13	10
\$14.00-\$14.99.....	3				5	5	8
\$15.00-\$15.99.....	4	1	1	4	3	5	3
\$16.00-\$16.99.....	1			1	1	8	6
\$17.00-\$17.99.....	1				2	5	6
\$18.00-\$18.99.....	1					4	3
\$19.00-\$19.99.....		1			1	2	3
\$20.00-\$24.99.....	1			1	1	4	11
\$25.00 and over.....					1	3	7
Total.....	325	154	290	293	253	200	134
Did not work at this dosage.....		171	35	32	72	125	191
Total cases.....	325	325	325	325	325	325	325

well lie in the fact that minimal cases would be the most likely group to qualify for "outside" jobs and, as shown in table 9, their workshop stays were relatively short and their average hours of work per week were not greatly in excess of advanced cases (table 8).

For all those cases studied, who had achieved some degree of work tolerance and had been discharged, there had been expended an average amount (subsidy) of about \$500 for each case (table 14). This direct cost which made possible participation of ex-patients in a workshop program must be regarded as the minimum estimate beyond sanatorium and medical expenditures necessary to prepare ex-patients for normal working lives.

To further refine the presentation of the earning and subsidy record, it is helpful for analysis to observe the experience of graduates exclud-

TABLE 14.—*Altro Work Shop discharges,¹ 1930-45, showing record of earnings and subsidies by diagnosis on admission*

Diagnosis on admission	Cases	Weeks of work	Earnings	Subsidies	Average per week		Average subsidy per case
					Earnings	Subsidies	
Total.....	564	48,664	\$351,271	\$272,896	\$7.22	\$5.61	\$484
Minimal.....	76	5,033	39,374	30,482	7.82	6.06	401
Moderately advanced.....	263	22,063	154,339	124,564	7.00	5.65	474
Far advanced.....	222	21,472	156,906	117,828	7.31	5.49	531
No involvement.....	3	96	652	22	6.79	0.23	7

¹ Cases which had reached at least 7 hours daily work tolerance and had remained at that level at least 2 months.

ing those who had not achieved at least 7 hours daily work tolerance and remained at that level at least 2 months (8 weeks).

The Altro Work Shop and its sponsoring agency accounted, in earnings paid and subsidies granted, for about \$13 of the weekly budget required by ex-patients who graduated or who had achieved approximately full-work tolerance. Although this amount was somewhat higher for minimal cases, the variation was slight among the admission diagnosis categories. The direct outlay required in subsidies to contribute to the support of those workers who reached a high degree of work tolerance before discharge averaged \$484; it was somewhat less for ex-patients with minimal lesions, amounting to \$401; it was \$474 for cases moderately advanced, and was higher still for ex-patients with far advanced lesions on admission to the workshop, being \$531.

Total financial needs of workers and their families.—In determining the needs of workers and their dependents, the staff of the Committee for the Care of the Jewish Tuberculous prepares, with the families, an analysis of the amounts required for various purposes to provide an adequate means of support while a family member is enrolled at the workshop. An effort is made to obtain the public and private assistance for which the families may be eligible.

To give an estimate of the financial position of the ex-patients studied, the cases for which budgetary analysis can be made are presented in tabular form. These cases represent 595 of the 667 cases studied for the years 1934-45. Sufficient data on this item could not be obtained for the 183 cases in the workshop during the years preceding 1934 (table 15).

TABLE 15.—*Budgets of Altro Work Shop admissions,¹ 1934-39, 1940-45, by extent of disease on admission*

Diagnosis and time periods	Cases	Weeks of work	Total budget	Earnings	Subsidies	Assistance ²
All diagnoses	595	40, 180	\$931, 581	\$275, 720	\$232, 447	\$423, 414
1934-39	294	23, 281	505, 216	160, 321	125, 512	219, 383
1940-45	301	16, 899	426, 307	115, 399	106, 935	204, 031
Minimal	79	3, 878	84, 377	26, 634	25, 367	32, 376
1934-39	29	1, 944	37, 134	13, 955	9, 939	13, 240
1940-45	50	1, 934	47, 243	12, 679	15, 428	19, 136
Moderately advanced	275	18, 391	414, 994	120, 186	103, 636	191, 172
1934-39	144	10, 849	232, 390	70, 879	61, 219	100, 292
1940-45	131	7, 542	18, 604	49, 307	42, 417	90, 880
Far advanced	234	17, 650	426, 080	127, 255	102, 979	195, 846
1934-39	120	10, 445	234, 488	75, 312	54, 354	104, 822
1940-45	114	7, 205	191, 592	51, 943	48, 625	91, 024
No involvement	7	261	6, 130	1, 645	465	4, 020
1934-39	1	43	1, 204	175	-----	1, 029
1940-45	6	218	4, 926	1, 470	465	2, 991

¹ For whom budgets were obtained.

² Includes public assistance, private assistance, and other family income.

For the entire group of 595 cases with budgets, average family needs approximated \$23 weekly. This amount was about \$22 in the earlier period and was about \$25 for the last 6 years of the study. Minimal cases, being slightly younger and not so likely to have assumed family obligations, had budgets averaging about \$22 in amount weekly; this amount was exceeded slightly by moderately advanced cases, and was over \$24 weekly for cases far advanced on admission to the workshop. The higher cost of living in the most recent years is reflected in higher budget figures for each of the three diagnostic groups during 1940-45.

If \$25 is taken to be the approximate amount necessary weekly to support workers and their households in a workshop venture under circumstances similar to those in which the Altro Work Shop operates, the record shows that the families can provide about one-half of their requirements through their eligibility for public assistance, assistance from private agencies, and their other family income. The other 12 or 13 dollars of their requirements are derived about equally from their earnings in the workshop and direct grants from the sponsoring agency (table 16).

TABLE 16.—*Altro Work Shop admissions,¹ 1934-39, 1940-45, showing distribution of components of budgets by extent of disease on admission*

Diagnosis and time periods	Number of cases	Average weekly budget	Weekly earnings		Weekly subsidy		Weekly assistance ²	
			Average	Percent of budget	Average	Percent of budget	Average	Percent of budget
Total.....	595	\$23.18	\$6.86	29.6	\$5.78	24.9	\$10.54	45.5
1934-39.....	294	21.70	6.89	31.8	5.39	24.8	9.42	43.4
1940-45.....	301	25.23	6.83	27.1	6.33	25.1	12.07	47.8
Minimal.....	79	21.76	6.87	31.6	6.54	30.0	8.35	38.4
1934-39.....	29	19.10	7.18	37.6	5.11	26.8	6.81	35.6
1940-45.....	50	24.43	6.56	26.8	7.98	32.7	9.89	40.5
Moderately advanced.....	275	22.56	6.54	29.0	5.63	25.0	10.39	46.0
1934-39.....	144	21.42	6.53	30.5	5.64	26.3	9.25	43.2
1940-45.....	131	24.20	6.54	27.0	5.62	23.2	12.04	49.8
Far advanced.....	234	24.14	7.21	29.9	5.83	24.1	11.10	46.0
1934-39.....	120	22.45	7.21	32.1	5.20	23.2	10.04	44.7
1940-45.....	114	26.59	7.21	27.1	6.75	25.4	12.63	47.5
No involvement.....	7	23.49	6.31	26.9	1.78	7.6	15.40	65.5
1934-39.....	1	28.00	4.07	14.5	-----	-----	23.93	85.5
1940-45.....	6	22.59	6.74	29.8	2.13	9.4	13.72	60.8

¹ For whom budgets were obtained.

² Includes public assistance, private assistance, and other family income.

Relationship of earnings and subsidies through the work course.—Workers upon first entering the workshop are assigned a “daily work dosage” by recommendation of the physician in charge. Following admission, monthly examinations determine changes in the work dosage permitted. Obviously, ex-patients with low work tolerance do not work sufficient hours to offset budget deficiencies, so that subsidies

ordinarily exceed earnings during the early weeks of stay. This relationship is reversed as the higher work dosages are attained. The materials collected show that after ex-patients pass the 5-hour daily work schedule, they earn the greater share of their budget deficiency, and that by the time they have reached full-work tolerance, they earn an amount nearly sufficient to relieve the sponsoring agency of providing financial assistance.

Similar progress is noted when the enrollees are classified into the diagnostic groups presented on admission to the workshop. Very few ex-patients with minimal lesions started the workshop regimen at less than 4 hours daily work dosage and a number of them started at 5 hours, whereas relatively larger proportions of the advanced cases had entrance work dosages of 3 and 4 hours daily. By the time ex-patients reached a work dosage of 7 hours daily, earnings had increased to about \$10 weekly and the need for subsidies had dropped to less than half that amount. By the time the full work tolerance of 8 hours daily was reached, ex-patients were earning nearly three-fourths of their budgetary requirements exclusive of "assistance" derived from their own assets and public and other private sources (table 17).

The extent to which earnings, subsidies, and other income contribute to total family needs at various stages of progress toward full work tolerance is shown below. Other sources of income account for increasingly smaller parts of the total needs as the worker's earning capacity increases. By the time workers reach full work tolerance, earnings account for over one-half of their needs. Subsidies received from the sponsoring agency appear most responsive to the changing earning record (table 18).

To summarize the record of the ex-patients' experience in meeting their financial needs while at the workshop, it may be stated that earnings exceed the amount of budgetary supplement required from the sponsoring agency; that nearly one-half of the income required to support workers and their dependents has been derived from outside sources including public and organized private assistance; that regardless of extent of lesion on admission, ex-patients show ever greater average weekly earnings and correspondingly less dependence on other aid as they move from lower to higher work dosages.

CONCLUSIONS

✓ This report has considered some of the medical and financial aspects of the operation of a sheltered workshop for discharged tuberculous patients. It has shown that, for the group studied, a sizeable proportion can be brought to full work tolerance. That goal was reached by three-quarters of the ex-patients, about 90 percent of whom were in advanced stages of the disease at the time of their admission to

TABLE 17.—*Altro Work Shop admissions, 1930-45, showing, by work dosage, earnings received and subsidies granted, by extent of disease on admission*

[Amounts in italics denote dollars]

	Daily work dosage in hours						
	0 ¹	3	4	5	6	7	8
All diagnoses							
Persons.....	531	317	755	722	716	584	467
Weeks of work.....	2,123	4,001	11,978	11,218	11,848	9,273	10,937
Earnings.....		11,527	18,261	61,376	87,350	94,322	151,973
Subsidies.....	27,526	28,840	32,981	69,800	69,263	41,872	41,293
Average earnings per week.....		2.88	4.03	5.47	7.38	10.17	12.07
Average subsidy per week.....	12.97	7.21	6.93	6.22	5.85	4.52	3.78
Minimal							
Persons.....	58	17	100	98	106	85	68
Weeks of work.....	204	185	1,145	1,208	1,348	960	1,625
Earnings.....		495	4,563	6,220	9,878	10,106	17,547
Subsidies.....	2,764	1,499	9,387	8,740	9,040	4,330	8,478
Average earnings per week.....		2.68	3.99	5.15	7.28	10.63	10.80
Average subsidy per week.....	13.65	8.10	8.20	7.24	6.71	4.61	5.22
Moderately advanced							
Persons.....	252	134	346	333	331	260	219
Weeks of work.....	899	1,566	5,473	5,300	5,315	3,821	5,238
Earnings.....		4,094	21,101	27,779	37,957	36,410	63,575
Subsidies.....	11,248	10,835	37,497	32,786	30,216	16,810	20,087
Average earnings per week.....		2.61	3.86	5.24	7.14	9.63	12.14
Average subsidy per week.....	12.51	6.92	6.85	6.19	5.69	4.40	3.82
Far advanced							
Persons.....	220	163	304	285	272	234	177
Weeks of work.....	1,019	2,224	5,330	4,648	5,114	4,439	4,056
Earnings.....		6,900	22,497	27,032	39,111	47,283	50,736
Subsidies.....	13,503	16,457	36,035	28,225	29,894	20,645	12,694
Average earnings per week.....		3.10	4.22	5.82	7.65	10.65	12.61
Average subsidy per week.....	13.25	7.40	6.76	6.07	5.85	4.65	3.13
No involvement							
Persons.....	1	3	5	6	7	5	3
Weeks of work.....	1	26	30	62	71	53	18
Earnings.....		58	100	345	524	523	115
Subsidies.....	11.00	49	62	49	113	87	94
Average earnings per week.....		1.46	3.33	5.56	7.38	9.87	6.39
Average subsidy per week.....	11.00	1.88	2.07	.79	1.59	1.64	5.22

¹ Includes time spent by patients under observation, time excused for illness, vacations, hospitalization, etc.TABLE 18.—*Altro Work Shop admissions for whom budgets were available, 1934-45, showing distribution of earnings, subsidies, and assistance¹ at each daily work dosage*

	Daily work dosage in hours							
	Total	0 ²	3	4	5	6	7	8
Budget.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Earnings.....	29.6		12.3	17.1	23.4	33.5	44.3	54.1
Subsidies.....	25.0	57.8	31.6	20.7	26.1	23.9	18.1	12.7
Assistance.....	45.4	42.2	56.1	53.2	50.5	42.6	37.6	33.2

¹ Includes income from public and private agencies and other family income.² Includes time spent by patients under observation and while excused for illness, vacation, hospitalization, etc.

the workshop. Their condition was, in general, arrested or apparently arrested and their sputum had become negative. Their work tolerance was at a 3-, 4-, or 5-hour level per day and necessitated gradual restoration of their full work capacity.

Communities interested in emulating the example of the sponsoring agency in the present study must be assured of sufficient financial resources to provide for ex-patients beyond their relatively low earnings. Interested groups must also be assured of the willingness of other agencies, public and private, to cooperate in the venture by providing assistance. The average patient will need to be assured of about \$25 weekly from all sources to take care of his family obligations and to supply him with sufficient funds to guarantee benefit from the workshop regimen. With earnings varying from 12 percent to 54 percent of total needs, depending on work capacity, and averaging 30 percent, there must be provided from other sources sufficient funds to meet the deficiency. The ex-patients in this study were eligible for public assistance which, together with other income, amounted to nearly one-half of the budgetary requirements. The experience of this workshop shows that direct subsidies are necessary to the extent of about one-fourth of the total budget.

In addition to the above direct financial outlay, capital investment to establish the institution and provide materials is required as is also an additional amount to staff the medical and social service organization essential to the sound operation of a graduated work program.

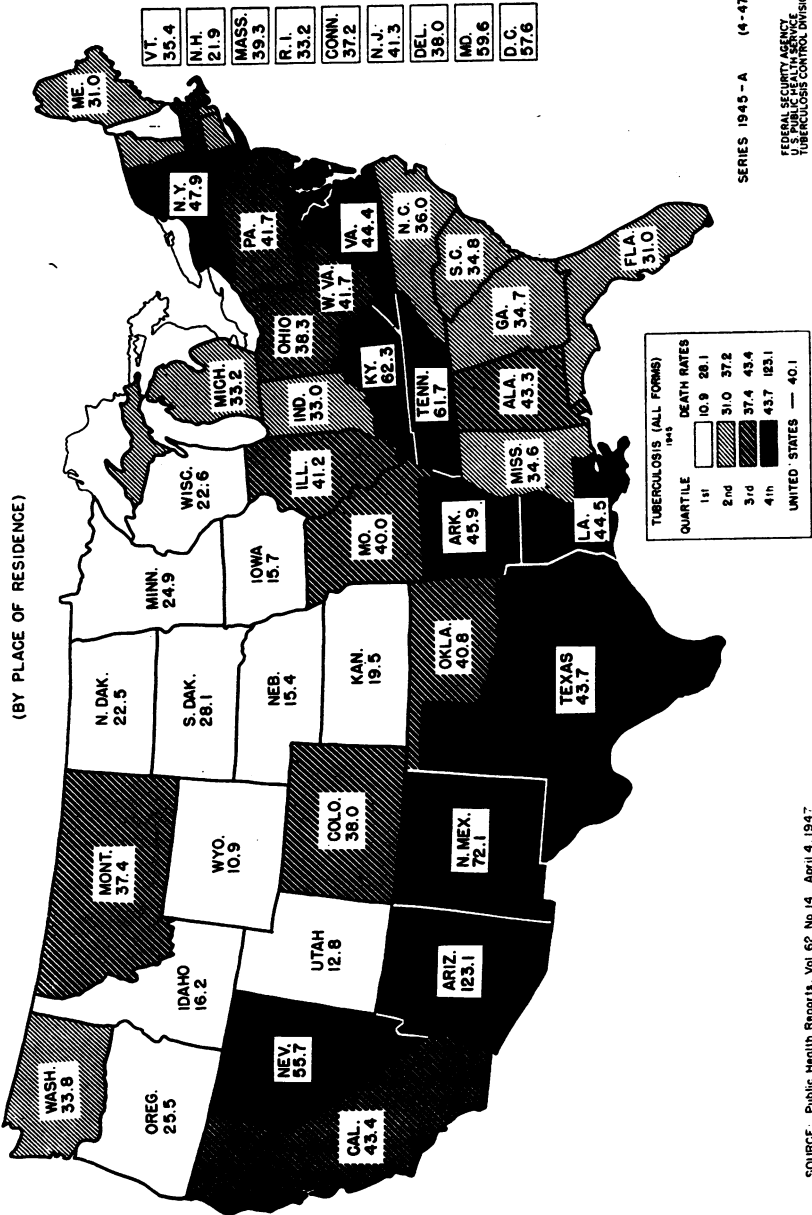
Other considerations must include the products to be made and marketed. Important also is the existence of a sufficiently large ex-patient group to staff a workshop. These ex-patients must have a fair prospect of achieving full work tolerance.

Patients discharged from sanatoria to return to their communities are usually faced with family or other responsibilities which require that they enter employment regardless of its suitability or their work tolerance. This study demonstrates the major costs of achieving full work tolerance. The data will be most useful when compared with studies bearing on costs to individuals and communities where there is no organized effort to restore earning capacity. Such costs may be measured in terms of relapses and in the general economic insecurity inherent in lowered working capacity, in need for public assistance, and in family instability.

ACKNOWLEDGMENTS

Grateful acknowledgment is extended to Dr. Louis E. Siltzbach, Mr. Edward Hochhauser, and Miss Celia Hentel of the Committee for the Care of the Jewish Tuberculous for their cooperation and interest in the conduct of the study.

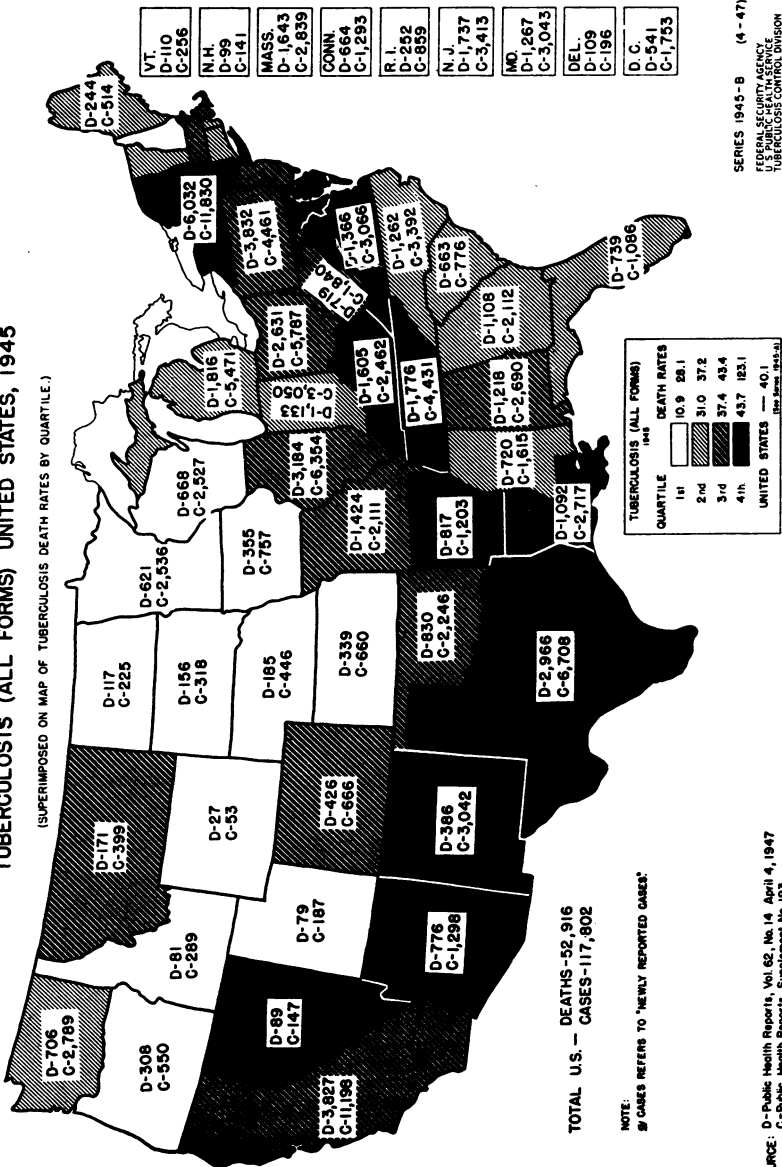
TUBERCULOSIS (ALL FORMS) DEATH RATES PER 100,000 POPULATION - UNITED STATES, 1945
(BY PLACE OF RESIDENCE)



SOURCE: Public Health Reports, Vol 62, No 14, April 4, 1947.

NUMBER OF DEATHS AND CASES ^{3/} TUBERCULOSIS (ALL FORMS) UNITED STATES, 1945

(SUPERIMPOSED ON MAP OF TUBERCULOSIS DEATH RATES BY QUANTILE.)



PASSIVE TRANSFER OF TUBERCULIN SENSITIVITY IN THE GUINEA PIG¹

By M. M. CUMMINGS,² MARTHA HOYT and R. Y. GOTTSCHALL

Chase (1) recently demonstrated that when cells from peritoneal exudates of tuberculin-sensitive guinea pigs were injected into normal guinea pigs, the latter reacted to the intradermal injection of tuberculin. The duration of passively transferred sensitivity in the normal recipient animals after injections of peritoneal exudates from the sensitized guinea pigs was brief and paralleled Landsteiner and Chase's (2) experiences in the transfer of drug allergy. The age or weight of the animals used in these experiments was not given. Until this time, attempts to transfer tuberculin sensitivity passively had not been successful. The literature on the subject to 1939 was reviewed by Lurie (3).

In guinea pigs which were actively sensitized by infection, Freund (4), Valtis (5), and Valtis and Saenz (6), found that the intracutaneous tuberculin test was negative or only slightly positive in very young animals, whereas intense reactions were produced in old guinea pigs. We thought it would be of interest to attempt to duplicate the studies made by Chase and to make experiments of an exploratory nature to determine whether the age of the animals had a pronounced influence on the passive transfer of sensitivity.

METHODS

The guinea pigs (albino) were sensitized to tuberculin by injection of heat-killed human tubercle bacilli suspended in mineral oil according to the method of Freund et al. (7, 8, 9). Twenty-two guinea pigs approximately 132 weeks old and 33 guinea pigs 3 weeks old were sensitized. Injections of 0.2 mg. of dead tubercle bacilli suspended in mineral oil were made at two sites on the back of the neck. Four weeks after the sensitizing injection, the animals were tested for sensitivity by intradermal injections of 0.1 ml. of a 1:10,000 dilution of International Standard Old Tuberculin. The reactions were measured 24 and 48 hours after the tuberculin injections. The mean sizes of the reactions are given in table 1.

Exudates were then obtained from these animals by the method described by Chase (1). Thirty milliliters of sterile mineral oil was injected intraperitoneally into the old, and 15 ml. into the young animals. Forty-eight hours later 50 to 100 ml. of heparinized Tyrode's

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TABLE 1.—*Tuberculin reactions in young and old guinea pigs 4 weeks after sensitization*

Number animals	Mean age	Mean weight	Mean size of reactions to 1:10,000 OT in millimeters	
			24 hours	48 hours
22	136 weeks.....	940 g.....	16.6 x 15.7.....	12.1 x 12.6
33	7 weeks.....	435 g.....	14.2 x 12.5.....	4.3 x 4.7

solution was injected intraperitoneally into the old, and 15 to 25 ml. into the young animals. They were killed immediately. A midline incision was made, the milky suspension of cells and oil was removed with a pipette, and the abdominal cavity was washed with 25 to 30 ml. of the Tyrode solution. Suspension and washings were pooled in a sterile separatory funnel and allowed to stand for 30 minutes. When the oil had separated, the aqueous layer was drawn off and centrifuged at 1,000 r. p. m. for 2 minutes. The supernatant fluid was removed, the cells were resuspended in heparinized Tyrode's solution, and again centrifuged. The volume of cells obtained from each animal was 0.1 to 0.2 ml. The cells were motile when examined on the warm stage of a microscope. A differential cell count revealed 12 to 15 percent polymorphonuclear cells, 35 to 40 percent lymphocytes, and 45 to 50 percent large mononuclear cells.

One to 10 animals were used as donors. The cells were suspended in 5 ml. of Tyrode's solution and injected intraperitoneally into normal recipient animals. The volume of cells injected into the recipient animals together with the number of animals used for obtaining the cells is given in table 2.

Twenty-four and 48 hours after inoculation, the recipients were tested for sensitivity by injecting 0.1 ml. of a 1:40 dilution of dialyzed old tuberculin intradermally. The skin reactions were measured at the end of 24 and 48 hours, and the presence of induration, necrosis, and color was noted.

For control purposes peritoneal exudates were obtained from 10 young and 3 old normal unsensitized guinea pigs. These exudates were injected intraperitoneally into 5 normal young guinea pigs. Twenty-four and 48 hours later, 0.1 ml. of a 1:40 dilution of the dialyzed old tuberculin and 0.1 ml. of diluted broth control was injected intradermally.

The tuberculin was prepared on synthetic medium. After dialysis in running water for 48 hours to remove glycerol, etc., the tuberculin was sterilized by filtration and preserved with 0.5 percent phenol. The dialyzed tuberculin when tested on sensitized guinea pigs was found to be approximately three-fourths as strong as the International

Standard Old Tuberculin. Intradermal injections of 0.1 ml. of 1:10, 1:20, 1:40 and 1:80 dilutions were given simultaneously at different sites on the backs of three old normal guinea pigs. The 1:10 and 1:20 dilutions elicited reactions on all of the animals, while no reactions were observed at the sites injected with the 1:40 and 1:80 dilutions.

Dialyzed, concentrated glycerol-beef infusion broth was used for a control. The medium was concentrated on the steam bath, as in the preparation of old tuberculin. It was dialyzed, filtered through a Seitz filter, and preserved with 0.5 percent phenol. The total solid content of the concentrated broth was determined, and before injection the broth was diluted until it had the same total solid content as the 1:40 dilution of dialyzed tuberculin.

To determine whether the 1:40 dilution of tuberculin or the diluted control produced reactions which could be confused with a tuberculin reaction, intradermal injections of 0.1 ml. were given to four old and eight young normal animals. Three of the old and seven of the young animals did not react to either injection. Two of the old and one of the young animals showed small, pink, slightly raised reactions at the sites injected with tuberculin and control 24 hours after injection. Two of the reactions were 7 x 7 mm. and the other 9 x 9 mm. in diameter. These reactions disappeared before the end of 48 hours.

Because of these three transient reactions, we felt that in this study it would be safer to rely only on 48-hour readings. A true tuberculin reaction should persist for this length of time, while any nonspecific reaction, or one due to trauma, will have disappeared.

RESULTS

The results of the tuberculin and control tests made on the recipient animals are given in table 2. The table shows that reactions were elicited in 7 of the 10 animals which received peritoneal exudates from the sensitized guinea pigs. No reactions were observed in the animals that received peritoneal exudates obtained from normal guinea pigs. The reactions were not as large as those obtained by Chase, but it is possible that we used less sensitive donor animals and injected less potent tuberculin than he did. The reactions noted in our study, however, appeared to be characteristic tuberculin reactions, as indicated by rate of appearance, disappearance, color, and edema, and in all respects simulated reactions of the same size produced in actively sensitized guinea pigs. Since reactions were not elicited in any of the recipient animals after injection of concentrated glycerol-beef infusion broth, the results are not tabulated. Table 2 also shows that reactions of approximately the same size are elicited in both young and old recipient guinea pigs after intradermal injection of tuberculin.

TABLE 2.—*Reactions to tuberculin in recipient animals which received cells from peritoneal exudates of sensitized donor animals (48 hour readings)*

Donor animals			Recipient animals				
Number of animals	Mean age	Mean weight in grams	Volume of cells injected	Age	Weight in grams	Results of tuberculin tests	
						24 hours after injecting cells	48 hours after injecting cells
	<i>Weeks</i>		<i>Milli-liter</i>	<i>Weeks</i>			
1 sensitized.....	136	1,200	0.2	4	340	0.....	0.
3 sensitized.....	136	1,100	.5	4	305	5 x 5 i. p.....	0.
3 sensitized.....	136	780	.5	136	1,140	6 x 8 i. p.....	5 x 6 i. p.
5 sensitized.....	136	1,011	.8	3	345	0.....	10 x 10 i. p.
5 sensitized.....	136	959	.8	150	1,175	12 x 15 i. p.....	0.
5 sensitized.....	8	416	.5	4	350	11 x 14 i. r.....	11 x 12 i. p.
5 sensitized.....	8	441	.5	167	1,280	10 x 10 i. p.....	0.
5 sensitized.....	8	413	.8	4	350	10 x 11 i. p.....	10 x 12 i. p.
6 sensitized.....	8	439	.7	165	1,075	11 x 11 i. p.....	0.
10 sensitized.....	8	540	1.1	180	1,015	0.....	0.
			.5	4	300	0.....	0.
			.5	4	295	0.....	0.
10 normal.....	8	505	.5	4	300	0.....	0.
			.5	4	290	0.....	0.
3 normal.....	136	1,018	.4	4	300	0.....	0.

i.=induration
p.=pink
r.=red
o.=negative

SUMMARY

1. Washed cells from peritoneal exudates of guinea pigs which had been sensitized to tuberculin were injected into normal, unsensitized guinea pigs. The animals which received the cells then reacted to intradermal injection of tuberculin, confirming the work of Chase.

2. Passive transfer of sensitivity did not appear to be greatly influenced by the age of the donor or of the recipient animals.

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INCIDENCE OF DISEASE

No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring

UNITED STATES

REPORTS FROM STATES FOR WEEK ENDED JUNE 14, 1947

Summary

Of the total of 45 cases of poliomyelitis reported by 20 States for the current week, only 2 States reported more than 2 cases—California 17 (last week 13), and Texas 4 (last week 6). For the corresponding week last year 183 cases were reported, and the 5-year (1942–46) median is 96. Since the week ended March 15 (the approximate average week of lowest seasonal incidence), 436 cases have been reported, as compared with 908 for the same period last year, and a 5-year median of 456. States reporting more than 10 cases since March 15 (last year's corresponding figures in parentheses) are as follows: California 141 (92), Texas 38 (168), New York 35 (49), Florida 20 (178), Illinois 17 (28), Nebraska 14 (1), Missouri 11 (6), North Dakota 11 (1), Kentucky 11 (11).

A total of 124 cases of Rocky Mountain spotted fever has been reported to date, as compared with 132 for the same period last year and a 5-year median of 124. States reporting the largest numbers to date are Maryland 15, Oklahoma 13, Colorado 10, Indiana, Illinois, and Virginia, 9 each, Wyoming 7, Idaho 6, and New Jersey and Pennsylvania 5 each. Cases have been reported this year in all of the 9 geographic divisions except the New England.

No case of smallpox was reported during the current week. The total to date is 136, as compared with 244 for the same period last year and a 5-year median of 259.

The cumulative totals for the year to date are above the respective corresponding 5-year medians (median figures in parentheses) for dysentery (all forms), 13,339 (10,360); tularemia, 731 (423); and whooping cough, 70,481 (60,055). The total for undulant fever is 2,547, as compared with an average of 2,135 for the corresponding periods of the past 2 years.

Cumulative figures for diphtheria, infectious encephalitis, measles, meningococcus meningitis, scarlet fever, typhoid and paratyphoid fever, and endemic typhus fever, are well below their respective corresponding 5-year medians.

Deaths registered during the week in 93 large cities of the United States totaled 8,857, as compared with 9,160 last week, 8,752 and 8,849, respectively, for the corresponding weeks of 1946 and 1945, and a 3-year (1944–46) median of 8,752. The cumulative total to date is 233,515, as compared with 231,340 for the corresponding period last year.

Telegraphic morbidity reports from State health officers for the week ended June 14, 1947, and comparison with corresponding week of 1946 and 5-year median

In these tables a zero indicates a definite report, while leaders imply that, although none was reported, cases may have occurred.

Division and State	Diphtheria			Influenza			Measles			Meningitis, meningococcus		
	Week ended—		Med- ian 1942- 46	Week ended—		Med- ian 1942- 46	Week ended—		Med- ian 1942- 46	Week ended—		Med- ian 1942- 46
	June 14, 1947	June 15, 1946		June 14, 1947	June 15, 1946		June 14, 1947	June 15, 1946		June 14, 1947	June 15, 1946	
NEW ENGLAND												
Maine.....	0	6	1	.....	.....	.....	39	244	182	1	1	0
New Hampshire.....	0	0	0	.....	.....	.....	.....	37	10	0	0	0
Vermont.....	0	1	0	.....	.....	.....	142	192	171	0	0	0
Massachusetts.....	11	9	2	.....	.....	.....	336	2,239	851	1	1	6
Rhode Island.....	0	0	0	.....	.....	1	104	170	130	0	0	1
Connecticut.....	0	2	0	.....	.....	.....	727	461	246	1	0	1
MIDDLE ATLANTIC												
New York.....	11	20	17	13	15	11	815	2,931	1,028	6	10	18
New Jersey.....	6	6	2	2	4	2	620	1,898	547	5	5	6
Pennsylvania.....	6	6	5	(?)	(?)	1	156	1,484	562	4	6	6
EAST NORTH CENTRAL												
Ohio.....	8	9	4	3	2	9	653	634	318	3	3	5
Indiana.....	4	6	2	.....	1	2	48	152	58	0	2	3
Illinois.....	3	4	6	10	1	1	228	345	345	7	6	14
Michigan ¹	13	5	5	2	2	1	278	501	285	0	2	6
Wisconsin.....	1	6	2	14	17	13	829	1,723	1,136	0	1	1
WEST NORTH CENTRAL												
Minnesota.....	4	6	1	1	2	.....	539	83	146	2	3	3
Iowa.....	4	5	3	.....	.....	.....	127	106	106	2	1	1
Missouri.....	2	5	2	1	.....	1	106	143	67	1	1	5
North Dakota.....	0	0	1	.....	.....	.....	53	6	6	0	0	0
South Dakota.....	1	1	0	.....	.....	.....	175	4	16	0	2	0
Nebraska.....	1	0	0	.....	.....	1	7	65	42	0	1	0
Kansas.....	3	9	3	.....	12	3	12	69	90	0	1	4
SOUTH ATLANTIC												
Delaware.....	0	0	0	.....	.....	.....	2	5	4	0	0	0
Maryland ²	4	11	5	1	.....	1	27	633	116	1	4	6
District of Columbia.....	0	0	0	.....	.....	.....	6	127	74	0	1	1
Virginia.....	4	5	4	144	60	41	278	514	152	3	2	6
West Virginia.....	7	2	2	6	7	3	8	37	32	1	0	0
North Carolina.....	3	9	6	.....	.....	.....	74	188	190	2	0	5
South Carolina.....	3	1	3	96	95	112	119	221	74	1	0	1
Georgia.....	1	5	4	1	3	3	32	56	30	1	2	1
Florida.....	0	4	3	.....	2	2	21	100	56	1	0	1
EAST SOUTH CENTRAL												
Kentucky.....	1	4	2	.....	.....	.....	4	126	56	1	3	3
Tennessee.....	4	6	2	5	6	10	18	103	62	0	7	6
Alabama.....	3	3	2	14	14	14	194	112	45	4	2	2
Mississippi ³	3	3	3	9	.....	.....	6	.....	.....	0	0	0
WEST SOUTH CENTRAL												
Arkansas.....	3	1	2	5	8	6	39	75	46	0	0	0
Louisiana.....	2	9	5	1	9	2	45	117	25	2	11	2
Oklahoma.....	2	4	2	28	15	4	5	124	45	1	1	1
Texas.....	13	33	28	192	235	235	171	779	327	5	8	8
MOUNTAIN												
Montana.....	0	1	1	.....	.....	1	81	104	70	1	0	0
Idaho.....	0	2	0	3	15	.....	9	34	12	0	0	0
Wyoming.....	1	2	0	3	.....	.....	6	37	37	0	0	0
Colorado.....	2	10	6	8	5	14	28	204	94	0	0	1
New Mexico.....	1	0	2	1	3	1	11	39	11	0	1	0
Arizona.....	3	4	1	27	18	25	51	127	30	0	2	1
Utah ⁴	4	0	0	1	.....	.....	39	164	136	0	0	0
Nevada.....	0	0	0	.....	.....	.....	.....	3	3	0	0	0
PACIFIC												
Washington.....	2	7	5	.....	.....	1	10	82	158	1	1	1
Oregon.....	8	1	2	5	.....	6	10	166	85	0	0	1
California.....	10	23	20	4	10	20	138	1,497	1,497	3	6	6
Total.....	162	256	154	590	551	630	7,426	19,261	12,480	61	97	133
24 weeks.....	5,871	7,981	6,051	298,221	187,067	77,305	158,424	586,748	485,042	2,003	3,798	5,153
Seasonal low week ⁴	(27th) July 5-11			(30th) July 26-Aug. 1			(35th) Aug. 30-Sept. 5			(37th) Sept. 13-19		
Total since low.....	13,437	19,625	14,895	331,196	549,315	113,167	181,311	612,872	523,055	2,975	5,302	7,605

¹ New York City only. ² Philadelphia only.

³ Period ended earlier than Saturday.

⁴ Dates between which the approximate low week ends. The specific date will vary from year to year.

Telegraphic morbidity reports from State health officers for the week ended June 14, 1947, and comparison with corresponding week of 1946 and 5-year median—Con.

Division and State	Poliomyelitis			Scarlet fever			Smallpox			Typhoid and paratyphoid fever		
	Week ended—		Median 1942-46	Week ended—		Median 1942-46	Week ended—		Median 1942-46	Week ended—		Median 1942-46
	June 14, 1947	June 15, 1946		June 14, 1947	June 15, 1946		June 14, 1947	June 15, 1946		June 14, 1947 ¹	June 15, 1946	
NEW ENGLAND												
Maine.....	1	0	0	2	24	18	0	0	0	0	2	1
New Hampshire.....	0	0	0	4	9	7	0	0	0	0	0	0
Vermont.....	0	0	0	2	0	4	0	0	0	0	0	0
Massachusetts.....	0	0	0	76	118	254	0	0	0	2	7	4
Rhode Island.....	2	0	0	3	2	9	0	0	0	0	0	0
Connecticut.....	0	0	0	30	33	39	0	0	0	1	2	0
MIDDLE ATLANTIC												
New York.....	0	4	3	201	356	288	0	0	0	3	1	4
New Jersey.....	2	2	2	53	124	88	0	0	0	0	0	0
Pennsylvania.....	1	3	2	104	193	193	0	0	0	5	6	6
EAST NORTH CENTRAL												
Ohio.....	1	3	1	160	165	165	0	0	1	0	2	2
Indiana.....	0	3	0	24	21	21	0	2	2	0	0	1
Illinois.....	2	6	0	56	112	100	0	0	0	2	1	1
Michigan ³	0	1	1	113	146	129	0	0	0	1	1	1
Wisconsin.....	0	0	0	53	79	110	0	0	0	0	0	0
WEST NORTH CENTRAL												
Minnesota.....	1	1	1	25	39	39	0	0	0	3	0	0
Iowa.....	1	3	0	16	27	21	0	0	0	5	0	0
Missouri.....	1	0	0	18	21	25	0	0	0	2	1	2
North Dakota.....	0	0	0	7	0	3	0	0	0	0	0	0
South Dakota.....	0	0	0	1	3	5	0	0	0	0	0	0
Nebraska.....	0	1	0	6	6	6	0	0	0	0	0	0
Kansas.....	0	4	1	17	19	26	0	1	1	1	1	1
SOUTH ATLANTIC												
Delaware.....	0	0	0	7	2	3	0	0	0	0	0	0
Maryland ³	0	0	0	14	31	60	0	0	0	0	0	0
District of Columbia.....	0	0	0	3	7	10	0	0	0	0	1	1
Virginia.....	1	0	2	23	24	14	0	0	0	1	2	2
West Virginia.....	0	2	0	8	15	15	0	0	0	3	0	3
North Carolina.....	1	3	2	11	33	12	0	0	0	1	1	1
South Carolina.....	0	0	1	0	5	2	0	0	0	4	2	3
Georgia.....	2	6	1	1	3	7	0	0	0	0	5	10
Florida.....	0	25	1	2	5	5	0	0	0	0	3	3
EAST SOUTH CENTRAL												
Kentucky.....	0	6	2	12	11	11	0	0	0	2	2	2
Tennessee.....	0	0	0	14	14	16	0	0	0	3	5	5
Alabama.....	1	25	3	1	10	7	0	0	0	1	1	4
Mississippi ³	0	4	0	0	5	3	0	0	0	4	2	2
WEST SOUTH CENTRAL												
Arkansas.....	2	1	2	0	2	4	0	0	0	3	0	4
Louisiana.....	0	3	2	5	3	3	0	0	0	5	7	7
Oklahoma.....	0	10	1	2	3	4	0	0	0	0	2	2
Texas.....	4	39	29	24	26	26	0	0	0	12	10	15
MOUNTAIN												
Montana.....	0	0	0	3	2	6	0	0	0	0	1	1
Idaho.....	1	0	0	2	4	7	0	1	0	0	4	0
Wyoming.....	0	0	0	0	0	7	0	0	0	0	2	0
Colorado.....	2	10	0	15	39	28	0	1	0	0	1	1
New Mexico.....	1	2	0	3	7	6	0	0	0	0	3	1
Arizona.....	0	0	0	4	3	9	0	0	0	0	1	1
Utah ³	0	0	1	8	6	8	0	0	0	0	0	0
Nevada.....	0	0	0	0	0	0	0	0	0	0	0	0
PACIFIC												
Washington.....	1	2	0	14	20	21	0	0	0	1	0	0
Oregon.....	0	0	0	11	12	18	0	0	0	0	1	1
California.....	17	14	9	105	133	133	0	1	0	17	2	3
Total.....	45	183	96	1,263	1,922	1,922	0	6	8	82	82	110
24 weeks.....	61,047	1,375	758	57,003	79,409	89,533	136	244	259	1,246	1,350	1,542
Seasonal low week ⁴	(11th) Mar. 15-21			(32nd) Aug. 9-15			(35th) Aug. 30-Sept. 5			(11th) Mar. 15-21		
Total since low.....	6,436	908	456	83,688	117,980	127,854	190	320	376	761	875	957

¹ Period ended earlier than Saturday.

² Dates between which the approximate low week ends. The specific date will vary from year to year.

³ Including paratyphoid fever reported separately, as follows: Massachusetts 2 (salmonella infection); Connecticut 1; South Carolina 2; Kentucky 1; Arkansas 1; Louisiana 1; Texas 3; Washington 1; California 4.

⁴ Corrections.—South Carolina, week ended May 17, 0 (instead of 1 case). Delayed reports: Maryland, January, 1 case; Nebraska, weeks ended April 19 and May 24, 1 case each, included in cumulative totals only.

Telegraphic morbidity reports from State health officers for the week ended June 14, 1947, and comparison with corresponding week of 1946 and 5-year median—Con.

Division and State	Whooping cough			Week ended June 14, 1947							
	Week ended—		Median 1942-46	Dysentery			Encephalitis, infectious	Rocky Mt. spotted fever	Tula- remia	Ty- phus fever, en- demic	Un- dulant fever
	June 14, 1947	June 15, 1946		Ame- bic	Bacil- lary	Un- spec- ified					
NEW ENGLAND											
Maine.....	18	14	22								
New Hampshire.....	2		3								
Vermont.....	8	12	17								7
Massachusetts.....	127	132	132		1						3
Rhode Island.....	11	23	20								
Connecticut.....	53	33	43								11
MIDDLE ATLANTIC											
New York.....	220	98	203	6	21					1	6
New Jersey.....	225	152	152					2			1
Pennsylvania.....	180	110	179					1			
EAST NORTH CENTRAL											
Ohio.....	170	55	121	2			1				2
Indiana.....	37	35	35					1			
Illinois.....	73	102	102	5	4		2	2			7
Michigan ¹	178	160	160	1	3						7
Wisconsin.....	110	105	105				1				6
WEST NORTH CENTRAL											
Minnesota.....	25	3	14	1		1					4
Iowa.....	20	26	12								11
Missouri.....	51	15	15			1		1	1		6
North Dakota.....	5		1								
South Dakota.....	1	1	2								2
Nebraska.....	11	1	11								1
Kansas.....	54	17	33				1		1		3
SOUTH ATLANTIC											
Delaware.....	5	1	1								
Maryland ¹	91	22	64					2			
District of Columbia.....	6	10	11					1			
Virginia.....	98	95	95			358					1
West Virginia.....	47	39	18								
North Carolina.....	90	105	168							2	1
South Carolina.....	92	64	66	7	19					2	5
Georgia.....	33	16	22		2				1	12	6
Florida.....	62	35	16					1		3	
EAST SOUTH CENTRAL											
Kentucky.....	27	24	48					2		1	
Tennessee.....	38	36	36	4		4		2			2
Alabama.....	64	11	44						2	2	10
Mississippi ¹	7			4	1					1	1
WEST SOUTH CENTRAL											
Arkansas.....	67	5	17	4	2	2			8		
Louisiana.....	23	13	9	3					1		1
Oklahoma.....	27	9	10	2	1	1	1		4		
Texas.....	763	241	241	7	282	28			2	12	5
MOUNTAIN											
Montana.....	9	6	16				1	1			
Idaho.....	10	14	1		5						
Wyoming.....	2	35	6								
Colorado.....	23	24	18	1				1			2
New Mexico.....	16	21	10								
Arizona.....	22	10	10			9					
Utah ¹	9	37	52					1			2
Nevada.....	2							1			
PACIFIC											
Washington.....	21	20	20			1	1				1
Oregon.....	12	28	27	2							
California.....	278	91	208	4			1		1		4
Total.....	3,523	2,106	2,618	53	341	405	9	20	23	37	118
Same week, 1946.....	2,106			51	416	164	8	27	23	77	120
Median 1942-46.....	2,618			40	435	141	8	21	23	77	118
24 weeks: 1947.....	70,481			1,175	7,202	4,962	161	124	732	872	2,547
1946.....	45,011			948	8,013	2,874	208	132	423	1,144	2,093
Median, 1942-46.....	60,055			753	7,485	2,122	209	124	423	1,144	2,135

¹ Period ended earlier than Saturday.

² 2-year average, 1945-46.

Anthrax: New York 1 case.

Alaska, week ended June 14: German measles 7; chickenpox 1; measles 1; scarlet fever 2; typhoid fever 1.

WEEKLY REPORTS FROM CITIES¹*City reports for week ended June 7, 1947*

This table lists the reports from 86 cities of more than 10,000 population distributed throughout the United States, and represents a cross section of the current urban incidence of the diseases included in the table.

Division, State, and City	Diphtheria cases	Encephalitis, infectious, cases	Influenza		Measles cases	Meningitis, meningococcus, cases	Pneumonia deaths	Pollomyelitis cases	Scarlet fever cases	Smallpox cases	Typhoid and paratyphoid fever cases	Whooping cough cases
			Cases	Deaths								
NEW ENGLAND												
Maine:												
Portland.....	0	0		1	14	0	1	0	1	0	0	13
New Hampshire:												
Concord.....	0	0		0		0	0	0	0	0	0	
Vermont:												
Barre.....	0	0		0	22	0	0	0	0	0	0	
Massachusetts:												
Boston.....	5	0		0	62	1	13	0	10	0	0	24
Fall River.....	0	0		0	10	0	0	0	0	0	0	6
Springfield.....	0	0		0	10	0	0	0	3	0	0	4
Worcester.....	0	0		0	23	0	4	0	4	0	1	10
Rhode Island:												
Providence.....	0	0		0	188	1	0	0	8	0	2	31
Connecticut:												
Bridgeport.....	0	0		0	39	0	0	0	6	0	0	1
Hartford.....	0	0		0	97	0	0	0	0	0	0	
New Haven.....	0	0		0	90	0	2	0	1	0	0	25
MIDDLE ATLANTIC												
New York:												
Buffalo.....	0	0		0	1	1	6	0	5	0	0	7
New York.....	9	1	1	0	465	4	36	1	80	0	1	99
Rochester.....	0	0		0	1	0	2	0	12	0	0	8
Syracuse.....	0	0		0	1	0	1	0	10	0	0	19
New Jersey:												
Camden.....	2	0		0	1	0	1	0	2	0	0	
Newark.....	0	0	1	0	14	0	4	0	8	0	0	38
Trenton.....	0	0		0	4	0	1	0	0	0	0	2
Pennsylvania:												
Philadelphia.....	1	0	1	0	41	2	10	0	25	0	1	39
Pittsburgh.....	3	0		1	18	3	5	0	17	0	0	23
Reading.....	0	0	1	0		0	0	0	3	0	0	
EAST NORTH CENTRAL												
Ohio:												
Cincinnati.....	2	0		0	1	0	1	0	9	0	0	6
Cleveland.....	0	0		1	171	1	2	0	37	0	0	50
Columbus.....	0	0	1	1	91	0	0	0	4	0	0	24
Indiana:												
Fort Wayne.....	0	0		0	3	0	1	0	1	0	0	
Indianapolis.....	0	0		0		0	6	0	14	0	0	24
South Bend.....	0	0		0	20	0	0	0	1	0	0	3
Terre Haute.....	0	0		0		0	0	0	1	0	0	1
Illinois:												
Chicago.....	0	0		0	30	8	32	0	23	0	0	26
Michigan:												
Detroit.....	2	2		0	5	2	5	0	0	0	0	82
Flint.....	0	0		0		0	0	0	4	0	0	
Grand Rapids.....	0	0		0	10	0	0	0	12	0	0	7
Wisconsin:												
Kenosha.....	0	0		0	1	0	0	0	1	0	0	4
Milwaukee.....	0	0		0	32	0	2	0	15	0	0	38
Racine.....	0	0		0		0	0	0	11	0	0	2
Superior.....	0	0		0		0	1	0	0	0	0	
WEST NORTH CENTRAL												
Minnesota:												
Duluth.....	0	0		0		1	1	0	1	0	0	6
Minneapolis.....	0	0		0	54	0	4	0	17	0	0	6
Missouri:												
Kansas City.....	1	0		0		0	4	1	6	0	0	4
St. Joseph.....	0	0		0		1	0	0	1	0	0	
St. Louis.....	0	1	1	0	65	1	10	0	9	0	0	34

¹ In some instances the figures include nonresident cases.

City reports for week ended June 7, 1947—Continued

Division, State, and City	Diphtheria cases	Enecephalitis, infectious, cases	Influenza		Measles cases	Meningitis, meningococcus, cases	Pneumonia deaths	Pollomyelitis cases	Scarlet fever cases	Smallpox cases	Typhoid and paratyphoid fever cases	Whooping cough cases
			Cases	Deaths								
WEST NORTH CENTRAL—continued												
North Dakota:												
Fargo.....	0	0		0	28	0	0	0	1	0	0	---
Nebraska:												
Omaha.....	1	0		0	1	0	1	0	0	0	1	---
Kansas:												
Wichita.....	0	0		0	4	0	3	0	0	0	0	2
SOUTH ATLANTIC												
Delaware:												
Wilmington.....	0	0		0		0	1	0	1	0	0	2
Maryland:												
Baltimore.....	4	0		0	23	0	4	0	8	0	0	53
Cumberland.....	0	0		0		0	1	0	0	0	0	---
Frederick.....	0	0		0		0	0	0	0	0	0	---
District of Columbia:												
Washington.....	0	0		0	7	0	0	1	13	0	0	8
Virginia:												
Lynchburg.....	0	0		0		0	0	0	1	0	0	---
Richmond.....	1	0		0	47	0	1	0	1	0	0	---
Roanoke.....	0	0		0	4	0	0	0	2	0	0	---
West Virginia:												
Wheeling.....	0	0		0	1	0	0	0	0	0	0	---
North Carolina:												
Raleigh.....	0	0		0	2	0	0	0	1	0	0	12
Wilmington.....	0	0		0		0	0	0	0	0	0	5
Winston Salem.....	0	0		0	6	0	0	0	2	0	0	4
South Carolina:												
Charleston.....	5	0	2	0	3	0	0	0	0	0	1	3
Georgia:												
Atlanta.....	0	0		0	7	0	1	0	0	0	0	3
Brunswick.....	0	0		0	2	0	0	0	0	0	0	1
Savannah.....	0	0		0	4	0	0	0	0	0	0	1
Florida:												
Tampa.....	0	0		0	4	1	1	0	1	0	0	4
EAST SOUTH CENTRAL												
Tennessee:												
Memphis.....	1	0		0	11	0	6	0	0	0	0	19
Nashville.....	1	0		0		0	0	0	1	0	0	8
Alabama:												
Birmingham.....	0	0		0	18	0	0	0	0	0	0	4
Mobile.....	0	0	2	1	4	1	2	0	0	0	0	4
WEST SOUTH CENTRAL												
Arkansas:												
Little Rock.....	0	0	1	0		0	2	0	0	0	0	11
Louisiana:												
New Orleans.....	1	0	6	0	14	0	5	0	1	0	1	2
Shreveport.....	0	0		0		0	4	0	0	0	0	---
Oklahoma:												
Oklahoma City.....	0	0		0		0	0	0	0	0	0	---
Texas:												
Dallas.....	0	0		0	44	0	1	0	3	0	0	5
Galveston.....	1	0		0		0	3	0	0	0	0	---
Houston.....	2	0		0	9	0	0	2	0	0	0	4
San Antonio.....	3	0		0	4	0	10	0	0	0	1	4
MOUNTAIN												
Montana:												
Billings.....	0	0		0		0	3	0	0	0	0	---
Great Falls.....	0	0		0	8	0	1	0	2	0	0	5
Helena.....	0	0		0		0	0	0	0	0	0	---
Missoula.....	0	0		0		0	2	0	0	0	0	---
Idaho:												
Boise.....	0	0		0	2	0	0	0	0	0	0	4
Colorado:												
Pueblo.....	0	0		0		0	1	0	3	0	0	1
Utah:												
Salt Lake City.....	0	0		0	10	0	1	0	3	0	0	1

City reports for week ended June 7, 1947—Continued

Division, State, and City	Diphtheria cases	Encephalitis, infectious, cases	Influenza		Measles cases	Meningitis, meningococcus, cases	Pneumonia deaths	Poliomyelitis cases	Scarlet fever cases	Smallpox cases	Typhoid and paratyphoid fever cases	Whooping cough cases
			Cases	Deaths								
PACIFIC												
Washington:												
Seattle.....	0	0	-----	0	3	0	2	0	5	0	0	11
Spokane.....	0	0	-----	0	7	0	0	0	1	0	0	-----
Tacoma.....	0	0	-----	0	-----	0	0	0	0	0	0	1
California:												
Los Angeles.....	2	0	6	1	-----	1	3	3	22	0	2	46
Sacramento.....	1	0	-----	0	2	0	0	0	0	0	0	6
San Francisco.....	0	0	4	0	10	0	2	0	9	0	1	6
Total.....	48	4	27	6	1,873	29	216	8	443	0	12	906
Corresponding week, 1946*	61	-----	20	11	5,320	-----	256	-----	707	0	10	482
Average 1942-46*	57	-----	26	11	4,187	-----	262	-----	887	0	16	764

* 3-year average, 1944-46.

* 5-year median, 1942-46.

* Exclusive of Oklahoma City.

Dysentery, amebic.—Cases: Fall River 1; New York 10; Detroit 2; New Orleans 9; San Francisco 1.

Dysentery, bacillary.—Cases: New Haven 1; New York 11; Charleston, S. C., 4; New Orleans 5; San Antonio 1.

Dysentery, unspecified.—Cases: Baltimore 1; San Antonio 7.

Rocky Mountain spotted fever.—Cases: South Bend 1; Baltimore 1.

Typhus fever, endemic.—Cases: New York 1; New Orleans 1; Galveston 1; Houston 1; San Antonio 1.

Rates (annual basis) per 100,000 population, by geographic groups, for the 86 cities in the preceding table (latest available estimated population, 33,802,300)

	Diphtheria case rates	Enecephalitis, infectious, case rates	Influenza		Measles case rates	Meningitis, meningococcus, case rates	Pneumonia death rates	Poliomylitis case rates	Scarlet fever case rates	Smallpox case rates	Typhoid and paratyphoid fever case rates	Whooping cough case rates
			Case rates	Death rates								
New England.....	13.1	0.0	0.0	2.6	1,451	5.2	52.3	0.0	86	0.0	7.8	298
Middle Atlantic.....	6.9	0.5	1.9	0.5	253	4.6	30.5	0.5	75	0.0	0.9	109
East North Central.....	2.5	1.2	0.6	1.2	223	6.7	30.7	0.0	82	0.0	0.0	164
West North Central.....	4.6	2.3	2.3	0.0	348	6.9	52.6	2.3	80	0.0	2.3	119
South Atlantic.....	16.7	0.0	3.3	0.0	184	1.7	15.1	1.7	50	0.0	1.7	161
East South Central.....	11.8	0.0	11.8	5.9	195	5.9	47.2	0.0	6	0.0	0.0	207
West South Central.....	17.8	0.0	17.8	0.0	180	0.0	63.5	5.1	10	0.0	5.1	66
Mountain.....	0.0	0.0	0.0	0.0	326	0.0	130.2	0.0	130	0.0	0.0	179
Pacific.....	4.7	0.0	15.8	1.6	35	1.6	11.1	4.7	59	0.0	4.7	111
Total.....	7.4	0.6	4.2	0.9	290	4.5	33.4	1.2	69	0.0	1.9	140

PLAGUE INFECTION IN KITTITAS COUNTY, WASH.

Under date of June 6, plague infection was reported proved, on June 5, in pools of fleas from rodents collected in Kittitas County, Wash., as follows: 94 fleas from 28 chipmunks, *Eutamias* sp., taken on May 21 at a location 8 miles west of Vantage; 150 fleas from 66 white-footed deer mice, *Peromyscus* sp., and 200 fleas from 128 meadow mice, *Microtus* sp., taken on May 23 from the north slope of Saddle Mountain Ridge above Boylston railroad station.

FOREIGN REPORTS

CANADA

Provinces—Communicable diseases—Week ended May 24, 1947.—During the week ended May 24, 1947, cases of certain communicable diseases were reported by the Dominion Bureau of Statistics of Canada as follows:

Disease	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Total
Chickenpox.....		26		212	247	28	21	53	97	684
Diphtheria.....			1	10	1	4	1			17
Dysentery:										
Amebic.....					1					1
Bacillary.....				1						1
German measles.....				58	37	1	7	2	4	109
Influenza.....		5		3	12	1	1		211	232
Measles.....		3	8	127	412	154	67	99	140	1,010
Meningitis, meningococcus.....			2		2				1	5
Mumps.....		23		115	433	20	40	23	76	730
Poliomyelitis.....				1	1					2
Scarlet fever.....		3	4	64	72	2		6	3	154
Tuberculosis (all forms).....		7	9	137	27	20	9	27	64	300
Typhoid and paratyphoid fever.....				7	2				2	11
Undulant fever.....				9	3		1	1		14
Venereal diseases:										
Gonorrhea.....	2	15	8	135	61	85	25	32	80	443
Syphilis.....		11	3	79	36	13	1	8	41	192
Other forms.....									3	3
Whooping cough.....		4	2	53	70	58	1	23	45	256

MOROCCO (FRENCH)

Notifiable diseases—March 1947.—During the month of March 1947, cases of certain notifiable diseases were reported in French Morocco as follows:

Disease	Cases	Disease	Cases
Conjunctivitis and ophthalmia of the newborn.....	6,398	Paratyphoid fever.....	7
Diphtheria.....	12	Puerperal infection.....	8
Dysentery:		Recurrent fever.....	3
Amebic.....	1,687	Scarlet fever.....	1
Bacillary.....	102	Smallpox.....	6
Leprosy.....	23	Tuberculosis (respiratory).....	993
Measles, including German measles.....	550	Typhoid fever.....	62
Ophthalmia neonatorum.....	10,062	Typhus fever.....	19

NEW ZEALAND

Notifiable diseases—5 weeks ended March 29, 1947.—During the 5 weeks ended March 29, 1947, certain notifiable diseases were reported in New Zealand as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Cerebrospinal meningitis.....	8	1	Poliomyelitis.....	3	—
Diphtheria.....	64	—	Puerperal fever.....	5	—
Dysentery:			Scarlet fever.....	85	—
Amebic.....	4	—	Tetanus.....	2	2
Bacillary.....	30	—	Trachoma.....	5	—
Erysipelas.....	15	—	Tuberculosis (all forms).....	220	75
Food poisoning.....	5	—	Typhoid fever.....	16	2
Malaria.....	1	—	Undulant fever.....	5	—

NORWAY

Notifiable diseases—February 1947.—For the month of February 1947, cases of certain notifiable diseases were reported in Norway as follows:

Disease	Cases	Disease	Cases
Cerebrospinal meningitis.....	21	Mumps.....	601
Diphtheria.....	133	Paratyphoid fever.....	2
Dysentery, unspecified.....	20	Pneumonia (all forms).....	4,602
Encephalitis, epidemic.....	1	Poliomyelitis.....	3
Erysipelas.....	449	Rheumatic fever.....	216
Gastroenteritis.....	2,212	Scabies.....	3,986
Gonorrhea.....	673	Scarlet fever.....	659
Hepatitis, epidemic.....	252	Syphilis.....	178
Impetigo contagiosa.....	3,157	Tuberculosis (all forms).....	430
Influenza.....	15,271	Typhoid fever.....	2
Lymphogranuloma inguinale.....	1	Weil's disease.....	2
Malaria.....	1	Whooping cough.....	1,487
Measles.....	63		

REPORTS OF CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER RECEIVED DURING THE CURRENT WEEK

NOTE.—Except in cases of unusual incidence only those places are included which had not previously reported any of the above-mentioned diseases, except yellow fever, during recent months. All reports of yellow fever are published currently.

A table showing the accumulated figures for these diseases for the year to date is published in the PUBLIC HEALTH REPORTS for the last Friday in each month.

Cholera

India—Calcutta.—For the week ended May 31, 1947, 186 cases of cholera were reported in Calcutta, India.

Indochina (French)—Cambodia.—For the period May 11–20, 1947, 66 cases of cholera with 54 deaths were reported in Cambodia, French Indochina.

Plague

Belgian Congo—Stanleyville Province.—For the period May 23–31, 1947, 1 case of plague was reported in Mahagi Territory, and 1 case of pneumonic plague was reported in Djugu, both in Stanleyville Province, Belgian Congo.

Smallpox

China—Shanghai.—For the week ended May 31, 1947, 75 cases of smallpox were reported in Shanghai, China.

Great Britain—England and Wales.—For the week ended June 7, 1947, 8 cases of smallpox were reported in England as follows: 5 cases at Barnsley, 2 cases at Bilston, and 1 case at Wakefield. The case at Wakefield was stated to be probably a contact of one of the cases at Barnsley.

Ivory Coast.—For the period May 11–20, 1947, 238 cases of smallpox with 29 deaths were reported in Ivory Coast.

Niger Territory.—For the period May 1–10, 1947, 168 cases of smallpox with 10 deaths were reported in Niger Territory.

Rhodesia (Southern).—Smallpox has been reported in Southern Rhodesia as follows: February 1947, 100 cases; March 1947, 76 cases.

Typhus Fever

Spain.—For the week ended April 26, 1947, 21 cases of typhus fever with 3 deaths were reported in Spain.

* * *

DEATHS DURING WEEK ENDED JUNE 7, 1947

[From the Weekly Mortality Index, issued by the National Office of Vital Statistics]

	Week ended June 7, 1947	Correspond- ing week 1946
Data for 93 large cities of the United States:		
Total deaths.....	9,160	9,171
Median for 3 prior years.....	8,890	
Total deaths, first 23 weeks of year.....	224,658	222,588
Deaths under 1 year of age.....	733	651
Median for 3 prior years.....	618	
Deaths under 1 year of age, first 23 weeks of year.....	17,951	14,121
Data from industrial insurance companies:		
Policies in force.....	67,294,085	67,206,152
Number of death claims.....	11,630	12,454
Death claims per 1,000 policies in force, annual rate.....	9.0	9.7
Death claims per 1,000 policies, first 23 weeks of year, annual rate.....	9.8	10.4